KRYACHKO, V.

Good working habits from the point of view.... Sov. profsoiuzy 18 no.2:25-27 Ja '62. (MIRA 15:4)

1. Glavnyy tekhnicheskiy inspektor oblsovprofa, g. Kiyev.
(Kiev Province--Machinery industry--Hygienic aspects)

KRYACHKO, V.

When everybody needs this man... Okhr.truda i sots.strakh. 6 no.1:14 Ja '63. (MIRA 16:1)

1. Zaveduyushchiy otdelom okhrany truda Kiyevskogo oblastnogo soveta professional'nykh soyuzov.
(Kiev—Machinery industry—Hygienic aspects)

ACC NR: AP7006797 SOURCE CODE: UR/0418/66/000/006/0026/0030

AUTHOR: Kryachko, V. P. (Engineer)

ORG: None

TITLE: Unit-head machine tools made up of standardized elements as components in transfer machines

SOURCE: Tekhnologiya i organizatsiya proizvodstva, no. 6, 1966, 26-30

TOPIC TAGS: machine tool industry, industrial automation, metal cutting machine tool, finishing machine, threading machine, drilling machine, AL-10 finishing machine, KhA 4101 finishing machine, KhA 3900 AL-9 finishing machine, KhA 4222 threading machine, KhA 1033 drilling machine

ABSTRACT: The article is a report on work being done by the Special Design Office of Unit-Head Machine Tools in development of machines based on standardized elements and components. All basic and auxiliary machine tool elements are presently standardized, beginning with power heads, rotating indexing tables and housing components and ending with fittings for setting up the machine tool and packaging. Standardized components make up an average of 80-85% of the total number of machine tool parts. Photographs and brief descriptions are given illustrating a series of power heads and rotating indexing tables, the KhA 4101 semiautomatic unit-head machine tool for finishing the housing of mixing chambers, the KhA 3900 semiautomatic unit-head machine tool for finishing casings, the KhA 4222 semiautomatic unit-head machine tool for cutting internal threads in brass parts, the KhA 1033 automatic unit-head machine tool for

UDC: 621.941.234+65.011.56

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ACC NR: AP7006797

drilling holes in a piston, and the AL-9 and AL-10 transfer machines for finishing GAZ-53 pistons. These "automatic production lines" will replace 26 production workers at a low initial cost with an annual savings of 21,900 rubles and a production rate of 300 pistons per hour. The work presently being done by the Special Design Office of Unit-Head Machine Tools is directed toward further standardization to reduce the number of original components with a consequent reduction in cost and increase in quality and operational reliability. Orig. art. has: 7 figures.

SUB CODE: 13/ SUBM DATE: None

Card 2/2

KRYACHKO, V. T.

"Biopsy of the udder and the measurement of intraudder pressure in normal and pathological condition of the mammary gland in cows", (Asperant, Department of Obstetrics and Gynecology). Collected Works No. 14, of Leningrad Veterinary Institute USSR Ministry of Agriculture, P 129, Sel'khozgiz, 1954.

KRYACHKO, V. T.

"Some Data on the Etiology, Pathogenesis, Differential Diagnosis, and Prognosis of Isolated Cases of Mastitis in Cattle." Cand Vet Sci, Leningrad Veterinary Inst, Min Higher Education, Leningrad, 1955. (KL, No 8, Feb 55)

SO: Sum. No. 631, 26 Aug 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (14)

KRYACHKO, V.V

USSR / Electricity

G

Abs Jour : Ref Zhur - Fizika, No 4, 1957, No 9616

Author : Kryachko, V.V., Moskovkin, V.G.
Inst : Not given
Title : Determination of the Dielectric Constant of a Substance by Diffraction Method

Orig Pub : T. Voronezhsk, un-ta, 1956, 42, No 2, 19-23

Abstract : The authors obtain theoretically a system with equations for the natural frequencies of a dielectrical cylinder, and the solution of this system yields a relation between the radius of the cylinder ρ, the wavelength λ, and the dielectric constant ε

$$(\rho/\lambda)^s_m = \frac{1}{2\sqrt{\varepsilon}}\left(\frac{2m+1}{4}+s\right), \qquad (1)$$

Card : 1/2

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USSR / Electricity

Abs Jour : Ref Zhur - Fizika, No 4, 1957, No 9616

Abstract : where m is the order of the equation, and s is the order of the root. A limitation, which varies with increasing ρ/λ, is imposed on ε. When $0.03 \leq \rho/\lambda \leq 0.05$, the equation is valid for $\varepsilon = 400$. Experiment on the determination of ε is best carried out in the following manner. A cylinder, with unknown ε, is placed in the path of an electromagnetic radiator, Behind the cylinder, parallel to its axis, and preferably at a distance not more than a wavelength, is placed an instrument that records the electric field intensity. Increasing the frequency of radiation, and keeping the radius of the cylinder constant, it is possible to determine the first sharp maximum of the intensity of the diffracted wave E^2 and the corresponding value of ρ/λ. Using $m = 1$ and $s = 0$ in Eq. (1), one can find ε. The question of the accuracy of the measurements made by this method requires a separate analysis with allowance for the losses, and can be determined only experimentally. For water ε, measured by this method, equals 82.

Card : 2/2

ACC NR: AP7001940 SOURCE CODE: UR/0120/66/000/006/0061/0063

AUTHOR: Kryachko, V. V.; Synorov, V. F.

ORG: Voronezh State University (Voronezhskiy gosudarstvennyy universitet)

TITLE: Beta-spectrograph for irradiation of semiconductors in a range from 0.1 to 1 kev

SOURCE: Pribory i tekhnika eksperimenta, no. 6, 1966, 61-63

TOPIC TAGS: spectrographic camera, spectrographic analysis, irradiation, irradiation effect, electron bombardment

ABSTRACT:
A description is given of a beta-spectrograph designed for use in investigating the effect produced by electrons on semiconductors in the range from 0.1 to 1 kev. This spectrograph makes it possible to maintain an ultra-constant target temperature and to easily replace the target and the cathode. The design should satisfy the following conditions: 1) light emitted by the cathode should not strike the target; 2) relative error in the determination of the electron energy should not exceed 1—2%; and 3) the target should have maximum protection against impurities resulting from dissociation of the cathode and against the condensation of the vapors of organic substances. The resolving power of the spectrograph was $D^{-1} = 0.9\%$. Maximum density

Card 1/2 UDC: 539.293:537.533.7

ACC NR: AP7001940

of the beam current during operation with a tungsten cathode was approximately 10^{-6} amp/cm^2. Pulse rise time during pulsed irradiation was 0.2 μsec. The spectrograph was used to study changes of the surface energy states of germanium acted upon by electrons with an energy of 100—400 ev. The electrons generate a positive charge in the natural oxide film, coating the germanium surface. As a result the surface conductivity shifts from p- to n-type. The shape of the curve representing the dependence of the surface recombination S on the surface potential ϕ_s for germanium processed in H_2O_2 changes considerably during electron irradiation. In addition to the fundamental stable maximum S, a second induced maximum at $\phi_s < 0$ with a large amplitude value S appears as a result of irradiation. The amplitude of the induced maximum diminishes spontaneously to the initial level 10 to 15 min after irradiation. It is shown that the nature of the induced maximum S is associated with the recombination centers, whose effectiveness depends on the positive charge appearing in the oxide film. Orig. art. has: 1 formula and 5 figures.

SUB CODE: 20/ SUBM DATE: 20Nov65/ ORIG REF: 005 / ATD PRESS: 5111

Card 2/2

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27061
S/077/60/005/001/002/002
D045/D043

AUTHOR: Kryachko, V. V.

TITLE: The effect of slow electrons on photographic emulsions

PERIODICAL: Zhurnal nauchnoy i prikladnoy fotografii i kinematografii, v. 5, no. 1, 1960, 34-38

TEXT: In consideration of previous inadequate results achieved by K. Cole (Ref. 1: Phys. Rev., 1926, 28, 781), R. E. Burroughs (Ref. 2: Rev. Scient. Instrum., 1931, 2, 321), V. Weidner (Ref. 3: Ann. phys., 1932, 12, 239) and O. Meier (Ref. 4: Z. Phys., 1935, 36, 8), the author investigated the effect of slow electrons on photographic emulsions and attempted to set up standard rules for electrons below 22ev, since such rules are of great theoretical and practical importance. For this purpose, an apparatus, all the metal parts of which were made from non-magnetic materials and which represented a small magnetic π-radian β-spectrograph, was designed. A secondary electronic emission from the metals and dielectrics, the spectrum of which was rich in slow electrons with an energy of from 0.5-30 ev, was applied. A 6 x 6 mm polished copper plate or a specially made dielectric served as the emitter of secondary electrons. The electrical system of the apparatus is as follows:

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The effect of slow electrons ...

The electrons emitted by the oxidized cathode were accelerated in the gun to an energy of 300-1000 ev and fell on the emitter of the secondary electrons. The secondary electrons from the emitter were caught in the magnetic field, created by a long, single-layer solenoid. In the magnetic field of the solenoid, the electrons passed along a channel (radius-32 mm, cross section ~5 x 5 mm) through the collector along the π -radian to come into contact with the photographic layer. The channel is schematically represented by the diaphragm. The photo film was fastened to the cylinder, which could be turned with the aid of a slide. Different parts of the film could thus be placed under the electronic beam. The energy of the electrons which passed along the channel was simply determined by the intensity of the magnetic field of the solenoid. This intensity was measured by the compensation method of comparison (Ref. 5: N.Kostroknutov, Tekhnika izmereniy elektricheskikh i magnitnykh velichin [The technique of measuring electric and magnetic magnitudes], Gosenergoizdat, 1956) with the intensity of the magnetic field of a normal solenoid. The apparatus first was oriented along the total intensity of the Earth's magnetic field. The intensity of the magnetic field of the normal solenoid was calculated with a relative error of 0.1%. The relative error in determining the energy of the electrons was 15%. A Faraday

The effect of slow electrons ...

cylinder, in which a 5 x 5 mm input window and an output window 2 mm in diameter were made, served as the collector of electrons. Thus, a considerable part of the electrons passed through the collector, and on the remaining part, the current of the output beam could be judged. To know which part of the electrons caught in the collector, had passed out through the output window, a mechanical device was built, which, with the help of a slide, enabled the output window to be opened and shut. By measuring the full current of the collector with a galvanometer at the closed and the open window, the dependence of the current of the output beam on the current of the collector at the open output window was obtained. A dependence was thus obtained for the energy of electrons from 2-50 ev. The relative error in determining the current of the output beam was 5%. The electrical circuits of the cathode, the bias and the solenoid were fed from the batteries of the alkaline accumulators which had a capacity of 60 amp-hrs. The electric gun was fed from the ВВС-1 (VVS-1) stabilizer with a stabilization error of ± 0.5%. The vacuum in the apparatus was created by an ПВН-20 (RVN-20) initial vacuum pump and an ММ-40-А (MM-40-A) diffusion pump. The vacuum was measured by a ВИТ-3 (VIT-3) vacuum gage. During operation, the vacuum in the apparatus was no lower than 8×10^{-5} mm mercury

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The effect of slow electrons ...

column. For experimental purposes, the influence of electrons on 2X, Agfa Laue and Agfa Tekno x-ray films was investigated. These films, which were selected because of their high silver bromide concentration and their relatively high sensitivity to electrons, were tested in darkness after being cut into 30 x 120 mm strips [Abstracter's note: "30 x 120 mm" appears in the text as "30 x x 120 mm"] and fastened to the aluminum cylinder, which was placed in the camera. To achieve a working vacuum, the film was left in the camera for 2 hours, after which it was irradiated by electrons. On the 30 x 120 mm strip of film, 12-14 stills were usually made. The irradiated films were developed in a glass tank with a capacity of 250 ml with the aid of a special rack at a temperature of $19.5^{\circ}\pm0.5^{\circ}C$. A ferric oxalate developer was used for developing the superficial latent image (Ref. 6: K. Miz, Teoriya fotograficheskogo protsessa, Gos. izd. tekh.-teor. lit., 1949, 457) and Chibisov's metol-hydroquinone developer for developing the sub-surface image. The films were fixed in an ordinary hypo-bath and the exposed parts of the film were photomeasured by an МФ-2 (MF-2) microphotometer with a 3 x 3 mm shutter. Each exposed part was photomeasured at 11 points and the average value was calculated for the blackening intensities obtained. A control experiment was conducted to check that the light from

The effect of slow electrons ...

the cathode did not fall on the film. The apparatus was put into working condition, but the accelerating voltage on the gun was not obtained. After the apparatus had worked for 2 hours, the film was developed but no blackening was revealed. The maximum exposure was 45 minutes. To make sure that the blackening of the film depended on the electrons and not on fluorescent light which can arise under the effect of electrons, a shutter was made in the camera for the visual observation of the part of the channel along which the electrons passed. Observations showed that for electrons with an energy of from 1-2000 ev fluorescence was absent, and the density of the electron beam reached $8 \cdot 10^{-8}$ amp/cm^2. On studying the irradiated electrons and the developed parts of the film, it was found that the developed microcrystals were located $\sim 5\,\mu$ thick in the surface layer and that there were no microcrystals deep in the layer. These facts prove that a silver bromide microcrystal can be developed in this apparatus only by the effect of electrons. The author then discussed the dependence of the blackening density on the energy of electrons and the irradiation time, using both sub-surface and superficial developers. Using the sub-surface developer, the dependence of the blackening density on the energy of electrons was obtained for the Agfa Tekso, Agfa Laue and 2X x-ray films. During irradiation, the density of the

The effect of slow electrons ...

electron beam remained constant and equal to 2.2×10^{-8} amp/cm^2 [Abstracter's note: "2.2×10^{-8}" appears in text as "2,2x x 10^{-8}"]. The time of irradiation for all three films was constant and equal to 5 minutes. The characteristic of the change in blackening density in energies from 1.25-30 ev was the same for all three films. In small energies of electrons, the blackening density increases but does not reach the maximum. The minimum for altering the blackening density is at 10-20 ev. Starting from 30 ev, the alteration in density is distinguished. On the Agfa Laue and 2X films a saturation of the blackening density is observed and on the Agfa Tekso this is absent. Therefore, the energy of the electrons, from which the growth of the blackening density on every type of film begins, is different. The dependence of the blackening density on the time of irradiation was obtained for electrons with an energy of 4 ev. The density of the current of the electron beam remained constant and equal to $2.2 \cdot 10^{-8}$ amp/cm^2. The blackening density for all three types of film has a minimum or point of discontinuity. The minimum of these curves is in the regions of 11-17 minutes. After the minimum, a growth in the blackening density is observed. The intensity of the current of the electron beam was $2.2 \cdot 10^{-8}$ amp/cm^2, but the time of irradiation was reduced to 20 minutes. This was done so that in developing the

The effect of slow electrons ...

films in the superficial developer, the blackening density would be considerably less than in developing in the sub-surface developer. The alteration in blackening density was similar to that which was observed in the sub-surface developer. Starting from 30 ev, saturation of the blackening density is observed in both types of film. The minimum in alteration of the blackening density is, in this case, less noticeable and for both types of films, the blackening density starts at 25 ev. The dependence of the blackening density on the energy of electrons in different densities of electron beam was obtained for the Agfa Tekso film. When the density of the current of the electron beam is increased, a minimum of blackening density at 12 ev is more noticeably signified. When the density of the electron beam is increased, the position of the minimum remains unaltered, and its relative value for small energies of electrons is reduced. Furthermore, when the density of the electron beam is increased by the blackening density in the region of small energies of electrons a tendency to saturation occurs. In developing irradiated films in the surface developer, the blackening density is altered according to the exposure law. The author draws the following conclusions: The 2X, Agfa Laue and Agfa Tekso x-ray films were sensitive to

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The effect of slow electrons ...

electrons with an energy of 2-40 ev and of the above-mentioned films Agfa Laue was the most sensitive to electrons with an energy of 2-20 ev; for these films, the dependence of the blackening density on the energy of electrons in the region of 2-40 ev was established. It was shown that, in developing with the sub-surface developer, the blackening density, which was dependent on the time of irradiation at a constant energy of electrons equals to 4 ev, had a minimum or point of recurvature, while in developing with the superficial developer, the blackening density was altered by the exposure law; the theoretical interpretation of the rules obtained, requires full experimental data, which will be produced in the future. There are 6 figures and 4 non-Soviet-bloc references. The two references to English language publications are as follows: K. Cole, Phys. Ref., 1926, 28, 781; R. E. Burroughs, Rev. Scient. Instrum., 1931, 2, 321.

ASSOCIATION: Voronezhskiy Gosudarstvennyy universitet (Voronezh State University).

SUBMITTED: January 17, 1958

Card 8/8

KRYACHKO, V.V.

Effect of slow electrons on photographic emulsions. Part 2: Changes in the dependence of the blackening density on the energy of electrons taking place during the aging of X-ray films. Zhur.nauch.i prikl. fot. i kin. 6 no.2:87-91 Mr-Ap '61. (MIRA 14:4)

1. Voronezhskiy gosudarstvennyy universitet.
(Photographic emulsions) (Photoelectricity)

COUNTRY : USSR P
CATEGORY : GENERAL&SPEC.ZOOLOGY,INSECTS
Insect and Mite Pests.
ABS. JOUR.: Ref Zhur -Biologiya, No.4 , 1959, No. 16223

AUTHOR : Kryachko, Z.F.
INST. :
TITLE : Quarantine of Plants in the Ukraine.

ORIG. PUB.: Zashchita rast. ot vredit. i bolezney, 1958, No.2, 46-48

ABSTRACT : At roundlit and 26 object inspections, 22 import quarantine centers, and 5 laboratories there worked 574 individuals, of whom 200 were specialists with higher education. Since 1945 in the inspection of imported cargo quarantined objects have been detected and destroyed in 2,740 instances. For the examination of potatoes for Colorado beetle there are trained annually > 500 thousand people, of whom 3.5 thousand are instructors and crew.

CARD : 1/4

COUNTRY :
CATEGORY : GENERAL&SPEC.ZOOLOGY.INSECTS

ABS. JOUR. : Ref Zhur-Biologiya, No.4 , 1959, No. 16[illegible]

AUTHOR :
INST. :
TITLE :

ORIG. PUB.:

ABSTRACT : From 1947 - 1957 in western oblasts of the Ukraine [illegible] the beetle focus was exterminated on [illegible].5 hectare with 12[illegible] BHO introduced into the soil, using 590 kg per hectare, or [illegible] using 200 kg per hectare. For the [illegible] of potatoes for potato canker in the last 10 [illegible] there have been trained 7.1 million persons, of whom 75 thousand were instructors and [illegible]. New sites of the canker have been detected at 100 points in [illegible] rayons. [illegible]

CARD: 2/4

COUNTRY :
CATEGORY : GENERAL&SPEC.ZOOLOGY.INSECTS

ABS. JOUR. : Ref Zhur-Biologiya, No.4 , 1959, No. [illegible]

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : [illegible] was used to treat [illegible] sites at 120 [illegible] points on [illegible] hectare. After a 2-year check-[illegible] the quarantine was lifted at 19 points. In [illegible] regions with a high level of ground waters the [illegible] technical methods recommended by Professor Dorozhkin were successfully used in the strug-[illegible]. A number of canker-resistant varieties were introduced into individual regions. Since 1952 the number of trees infected with the fall webworm [illegible] has been reduced

CARD : 3/4

14

COUNTRY :
CATEGORY : GENERAL & SPEC. ZOOLOGY. INSECTS

ABS. JOUR. : Ref Zhur - Biologiya, , 1959, No. 16025

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : [illegible] and the localities from [illegible] to 140. [illegible] substantial work has been accomplished to combat the European red mite, the San Jose scale, and phylloxera. -- A.P. Adrianov

CARD: 4/4

KHYACHKO, Z.F.

Potato beetle control in the Ukraine. Zashch.rast.ot vred.i bol. 4 no.3:45-47 My-Je '59. (MIRA 13:4)

1. Nachal'nik Gosinspektsii po karantinu rasteniy po USSR.
(Ukraine--Potato beetle)

KRYACHKO, Z.F.

Spreading of the potato beetle in the U.S.S.R. and measures taken to control it. Nauk. zap. UzhGU 40:269-274 '59. (MIRA 14:4)

1. Gosinspektsiya po karantinu sel'skokhozyaystvennykh rasteniy po USSR.

(Potato beetle)

KRYACHKO, Z.F.

At the Conference on Potato Beetle Control. Zashch. rast. ot vred. i bol. 5 no.4:54-55 Ap '60. (MIRA 13:9)

1. Nachal'nik gosinspektsii po karantinu sel'khozrasteniy po USSR.
(Potato beetle)

KRYACHKO, Z.F.

"Potato wart." Reviewed by Z.F. Kriachko. Zashch. rast. ot vred. i bol. 5 no.9:61-62 S '60. (MIRA 15:6)
(Potato wart)

KRYACHKO, Z.; IGNATENKO, M., agronom-inspektor; MARKIN, A., kand. sel'-skokhoz. nauk; ZAYETS, V., entomolog-toksikolog; VAGANOV, V.

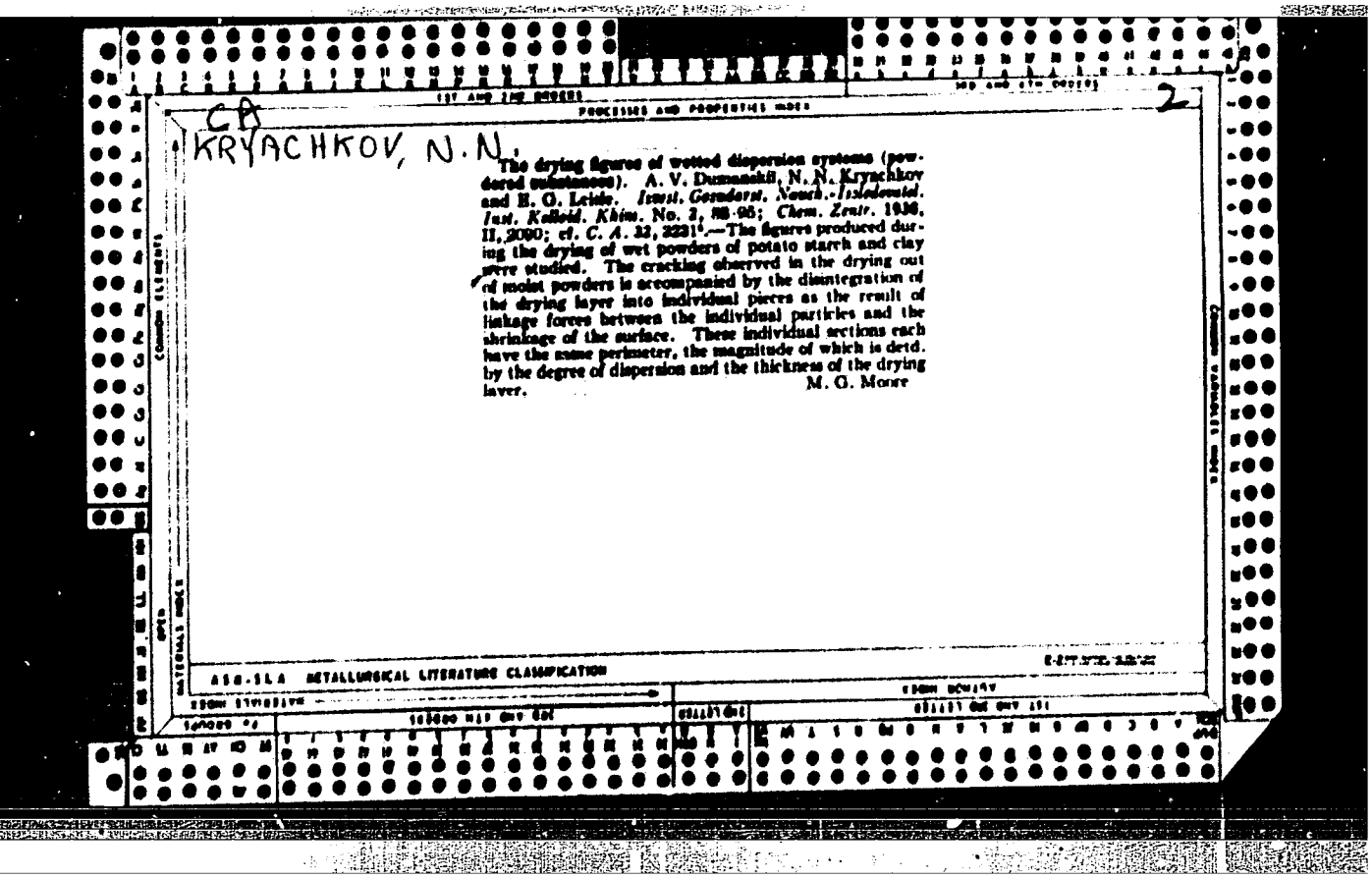
Pay attention to the hemp leaf roller Grapholitha delineana!
Zashch. rast. ot vred. i bol. 10 no.5:51-54 '65.
(MIRA 18:6)

1. Nachal'nik Ukrainskoy karantinnoy inspektsii (for Kryachko). 2. Sumskaya karantinnaya inspektsiya (for Ignatenko). 3. TSentral'-naya karantinnaya laboratoriya Ministerstva sel'skogo khozyaystva SSSR (for Markin, Zayets). 4. Starshiy agronom-entomolog Upravleniya khleboproduktov (for Vaganov).

SUKHAREV, M.I., kand. tekhn. nauk, dotsent; KRYACHKOV, L.V., inzh.

Characteristics of the adhesive bonding of fabrics obtained with polyethylene films. Izv. vys. ucheb. zav.; tekh. leg. prom. no.3:85-92 '63. (MIRA 16:7)

1. Leningradskiy tekstil'nyy institut imeni Kirova. Rekomendovana kafedroy materialovedeniya.
(Adhesion) (Textile fabrics)



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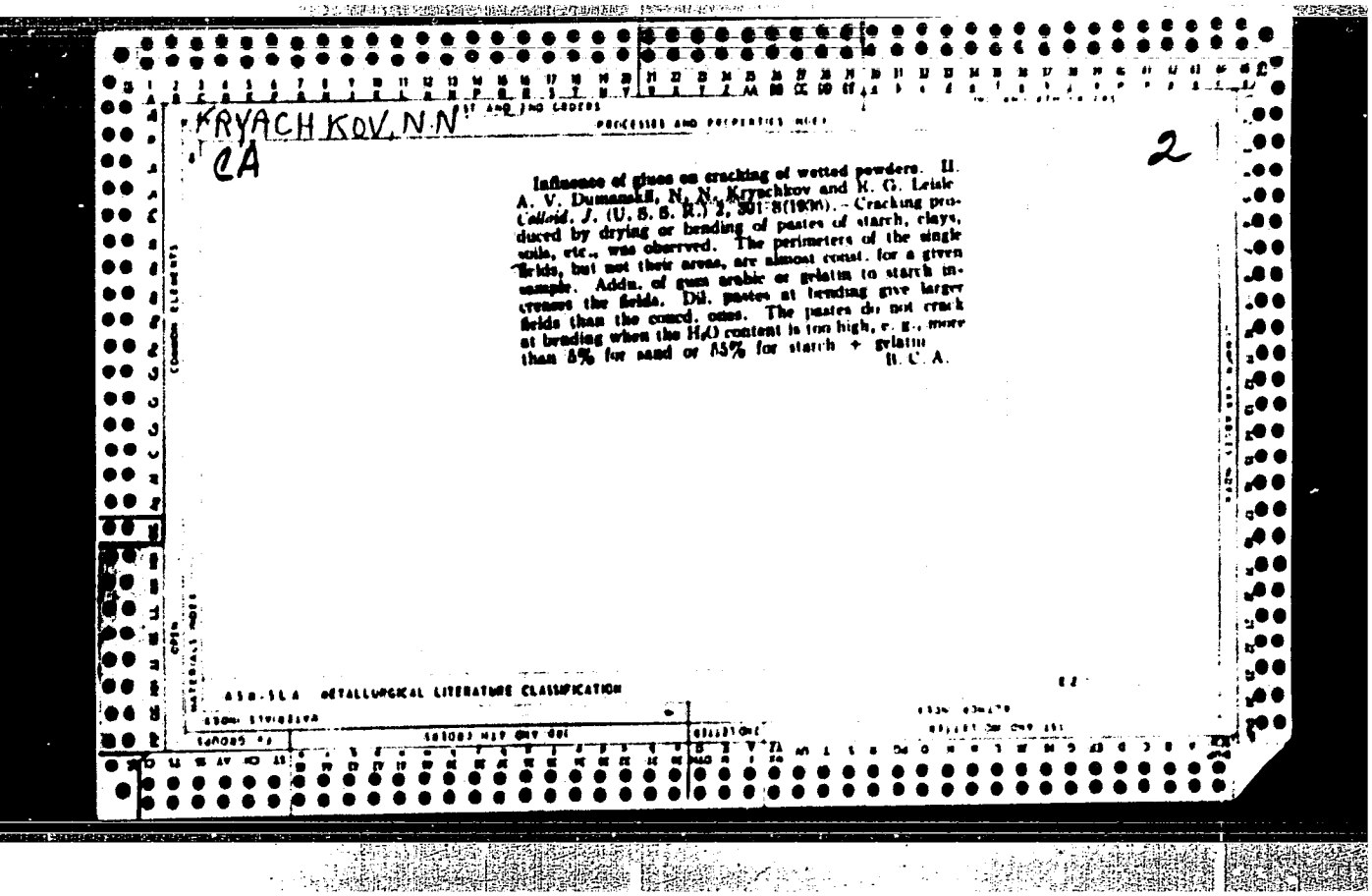
KRYACHKOV, N.N.

The drying figures of wetted dispersion systems (powdered substances). A. V. Dumanskii, N. N. Kryachkov and H. G. Leide. *Izvest. Gosudarst. Nauch.-Issledovatel. Inst. Kolloid. Khim.* No. 3, 88-95; *Chem. Zentr.* 1930, II, 2000; cf. *C. A.* 32, 2231[1].—The figures produced during the drying of wet powders of potato starch and clay were studied. The cracking observed in the drying out of moist powders is accompanied by the disintegration of the drying layer into individual pieces as the result of linkage forces between the individual particles and the shrinkage of the surface. These individual sections each have the same perimeter, the magnitude of which is detd. by the degree of dispersion and the thickness of the drying layer.

M. G. Moore

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



KRYACHKOV, N.N.

CA

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Influence of gases on cracking of wetted powders. II. A. V. Dumanskii, N. N. Kryachkov and K. G. Leisle. *Colloid. J.* (U. S. S. R.) 2, 301-8(1936).—Cracking produced by drying or bending of pastes of starch, clays, soils, etc., was observed. The perimeters of the single fields, but not their areas, are almost const. for a given sample. Addn. of gum arabic or gelatin to starch increases the fields. Dil. pastes at bending give larger fields than the concd. ones. The pastes do not crack at bending when the H_2O content is too high, e. g., more than 8% for sand or 15% for starch + gelatin. H. C. A.

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

KRYACHKOV, N.N.

Chemical Abstracts
Vol. 48 No. 5
Mar. 10, 1954
Sugar, Starch, and Gums

The kinetics of acid hydrolysis of starch. V. N. Kryachkov. *Trudy Leningrad Technol. Inst. Pishchevoi Prom.* 1 (IX), 57-68(1949).—Saccharifications of potato starch with 0.1*N* H_2SO_4 at 100° and 0.1*N* HCl at 80, 90, 100, and 120° show that the velocity constants of the transformation of dextrin to maltose and maltose to glucose are nearly the same. The H ion as catalyst breaks up the complex starch mol. with the same ease at any point. The concn. of the reducing materials follows the type of a unimol. reaction. The mean value of the velocity constant for the reaction of dextrin to maltose and maltose to glucose, obtained at different temps., can be expressed by the equation: $\log K = 0.0562t - 7.442$ (t = temp.). The velocity constant of the concn. of the reducing substances (in terms of glucose) depends on the temp. and corresponds to the equation: $\log K = 0.0562t - 7.093$. The catalytic activity of H_2SO_4 is about 86.5% of that of HCl. Studies of the hydrolysis of starch show that no detns. of the amt. of glucose, maltose, and dextrin of the samples are needed. It suffices to det. only the amt. of the reducing materials expressed in terms of glucose. Emanuel Merdinger

KHYACHKOV, P. Ya.

Fruit Culture - Kirgnizistan

Leaders in mountain fruit culture. Sad i og. no. 6, 1952.

9. Monthly List of Russian Accessions, Library of Congress, _____1953. Unclassified.

KRYACHKOV, P.YA.

The Committee on Stalin Prizes (of the Council of Ministers USSR) in the fields of science and inventions announces that the following scientific works, popular scientific books, and textbooks have been submitted for competition for Stalin Prizes for the years 1952 and 1953. (Sovetskaya Kultura, Moscow, No. 22-40, 20 Feb - 3 Apr. 1954)

Name	Title of Work	Nominated by
Gareyev, E.Z. Arakelyan, U.G. Bychkova, N.F. Kolenko, A.Z. Lashin, M.I. Kuzema, V.G. Kryachkov, P. Ya.	"Michurinian Varieties of Fruit Trees in Kirgiziya"	Kirgiz Affiliate, Academy of Sciences USSR

SO: W-30604, 7 July 1954

KRYACHKOV, P. YA.

USSR/Cultivated Plants - Potatoes, Vegetables, Melons. M-3

Abs Jour : Ref Zhur - Biol., No 3, 1958, 10832

Author : Kryachkov, P.Ya.

Inst : Kirgiz Agricultural Institute.

Title : The Influence of Growth Stimulators on Tomato Ripening in High Mountainous Regions.

Orig Pub : Tr. Kirgiz. s.-kh. in-ta, 1956, No 9, 39-41

Abstract : The Kirgiz Agricultural Institute grew Bizon and Anait tomato seedlings in mountainous conditions at the Narynsk Fruit and Vegetable Point (2037 meters above sea level). When sprayed six times during the flowering period with a 0.001% 2.4-DU solution, fruit growth and development were intensified, yield was increased, and maturation was accelerated. The total yield of the Bizon variety comprised 366.4 centners/hectare (43.5% above the

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Abs Jour : Ref Zhur - Biol., No 3, 1958, 10832

control), and of the Anait variety 115.5 centners/hectare (20.3% above the control). 32.5% of the fruits of the Bizon variety were red (as opposed to 15.2% in the control), and 9.4% of the fruits of the Anait variety were red (6.0% in the control). The aberage weight of the Bizon fruit was 117.6 grams as contrasted with 79.6 grams in the control. The stimulator caused a significant increase in the number of fruits without seeds, and the taste qualities of the fruits did not decline.

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M

USSR/Cultivated Plants. Fruits. Berries.

Abs Jour: Ref Zhur-Biologiya, No 5, 1958, 20501.

Author : P. Ya. Kryachkov
Inst : The Kirgiz Agricultural Institute.
Title : Berry Plants in Tyan'-Shan'.

Orig Pub: Tr. Kirg. s.-kh. in-ta, 1956, vyp. 9, 47-57.

Abstract: The ecological conditions for berry raising is described for Tyan'-Shan'skaya Oblast' of the Kirgiz SSR at heights of 1 to 2 thousand meters above sea level. It is recommended that planting be done in spring. The hardiest variety of raspberry is the Mal'boro; of black currant the Liya plodorodnaya and Neapolitanskaya, of red and yellow currant the red Gollandskaya and yellow Gollandskaya; of gooseberry the green Melkoplodnyy; of strawberry the Roshchinskaya. A local wild high yielding black

Card : 1/2

USSR/Cultivated Plants. Fruits. Berries.

M

Abs Jour: Ref Zhur-Biol., No 5, 1958, 20501.

currant called the Chon-Karagat has been cultivated. The phenology of berry fields is treated and recommendations on agrotechnics are made which will insure yields of 25-33 centners per hectare.

Card : 2/2

KRYACHKOV, Petr Yakovlevich; SAGYNBAYEV, K., red.

[Grafting fruit crops] Zhemish dagynyn buchurun ulop. Frunze, Kyrgyz mamlekettik basmasy, 1963. 43 p. [In Kirghiz] (MIRA 17:10)

KRYACHKOV, V.A.

Apparatus used for regulating the fineness of crushing and loading cement into a M-200 vibration mill. Rats. i izobr. predl. v stroi. no.3:22-25 '57. (MIRA 11:1)

(Crushing machinery) (Concrete)

Kryachkova, O. I.

Chem

Effect of pH and the oxidation-reduction potential on alcohol fermentation. A. M. Mutkov, V. K. Deeva, and O. I. Kryachkova. *Trudy Leningrad. Tekhnol. Inst. Pishchevoi Prom.* 1, 103-18(1953); *Referat. Zhur., Khim.* 1955, No. 3087.--A high oxidation-reduction potential (I) of the medium contributes to a lowering of the yield of ale. Thus, all the factors which contribute to a high I are undesirable; among these are lowering of pH of the mash and its aeration. An interrelation was found between the pH and the I of the mash and the yeast as well as an almost direct relation between the I of the fermenting medium and the intensity of yeast breathing. In the production of ale, the preferred pH was found to be 5.0-5.5. M. Hirsch

3

KRYACHKOVA, T.N., mladshiy nauchnyy sotrudnik; KOLOSOVA, K.K., kand. khimicheskikh nauk

Rapid EDTA analysis for determining the content of calcium and magnesium in magnesites using hydrone 1. Trudy Inst. ogneup. no.29:185-190 '60. (MIRA 14:12)

(Acetic acid)
(Magnesite--Analysis)

L 40938-66

ACC NR: AP6030989 SOURCE CODE: BU/0015/66/027/001/0025/0037

AUTHOR: Kryachkova, Z. V.

ORG: none

TITLE: Thitonian fauna in the Yablanitsa region (Northern Bulgaria)

SOURCE: Bulgarsko geologicheskо druzhestvo. Spisanie, v. 27, no. 1, 1966, 25-37

TOPIC TAGS: paleontology, geology

ABSTRACT: Gastropoda and Pelecypoda from Upper Tithonian in the Yablanitsa, Lovech District of Bulgaria have been described. The fauna analysis seems to indicate that the Tithonian fauna from Schtramberg migrated to the north of the Balkans through Hungary and continued even farther to Crimea and the Caucasus. The same path of migration from Western Europe was followed also by the genus Heterodicera. The paper describes: Oncochilus savii (Gemmellaro), Pseudotylostoma nikolovi Kryachkova sp. n., Discotectus massolongoi (Gemmellaro), Discotectus beyrichi Zittel, Diptyxis cf. petrea (Herbich), Contortella rustica (Favre), Pentaptyxis straszycii (Zeuschner), Pentaptyxis multicoronata (Zittel), Pentaptyxis ausriaca (Zittel), and Heterodiceras bajdarense Pcelincev. Orig. art. has: 13 figures. [Based on author's Eng. abst.] [JPRS: 36,844]

SUB CODE: 08 / SUBM DATE: none / SOV REF: 008 / OTH REF: 010

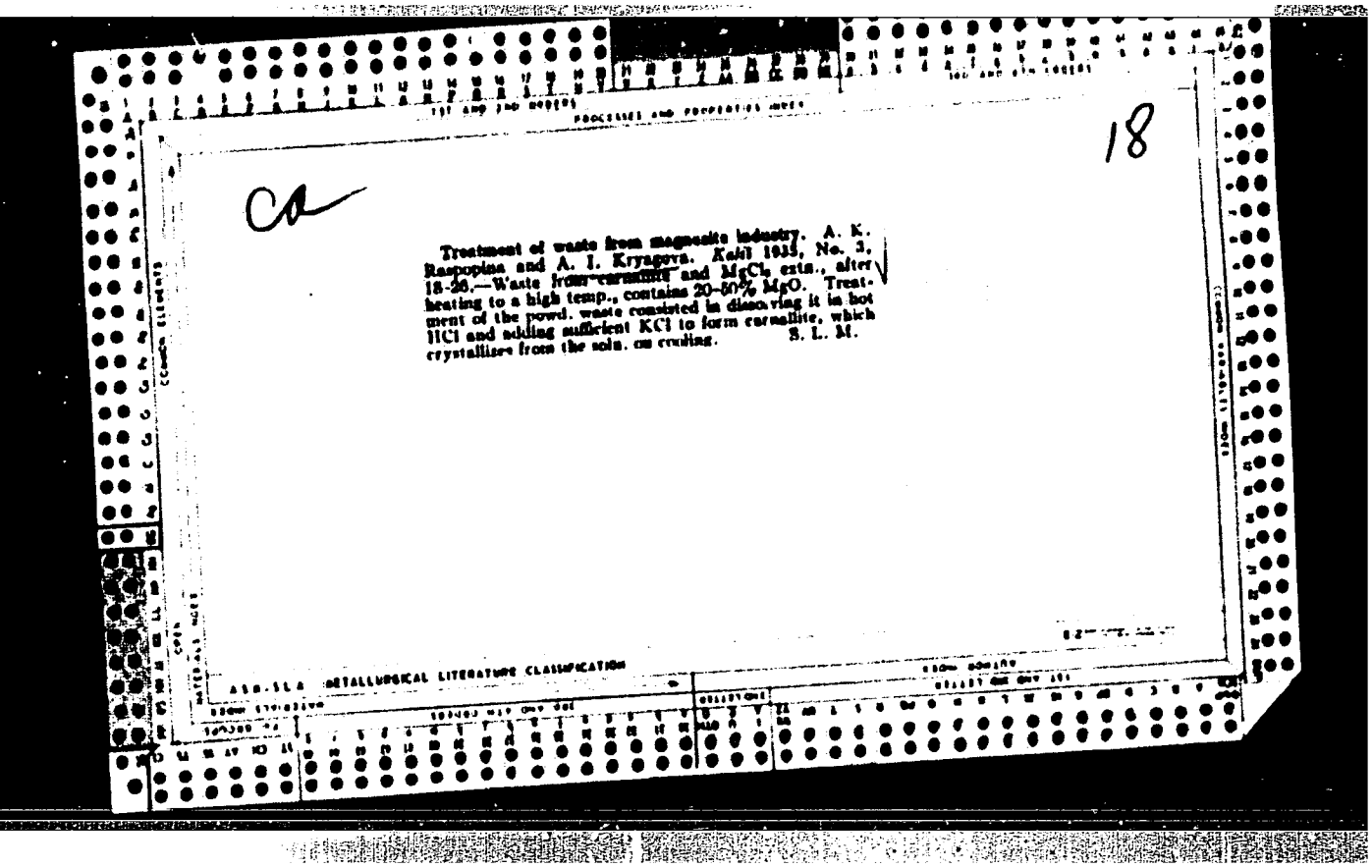
Card 1/1 MLP

0918 1965

KRYACHKOVA, Z.V.

Gastropoda of Rauracian sediments in northern Armenia.
Izv.AN Arm.SSR. Geol.i geog.nauki 14 no.5:3-12 '61. (MIRA 15:1)

1. Geologicheskiy muzey imeni A.P. Karpinskogo AN SSSR.
(Armenia--Gastropoda, Fossil)

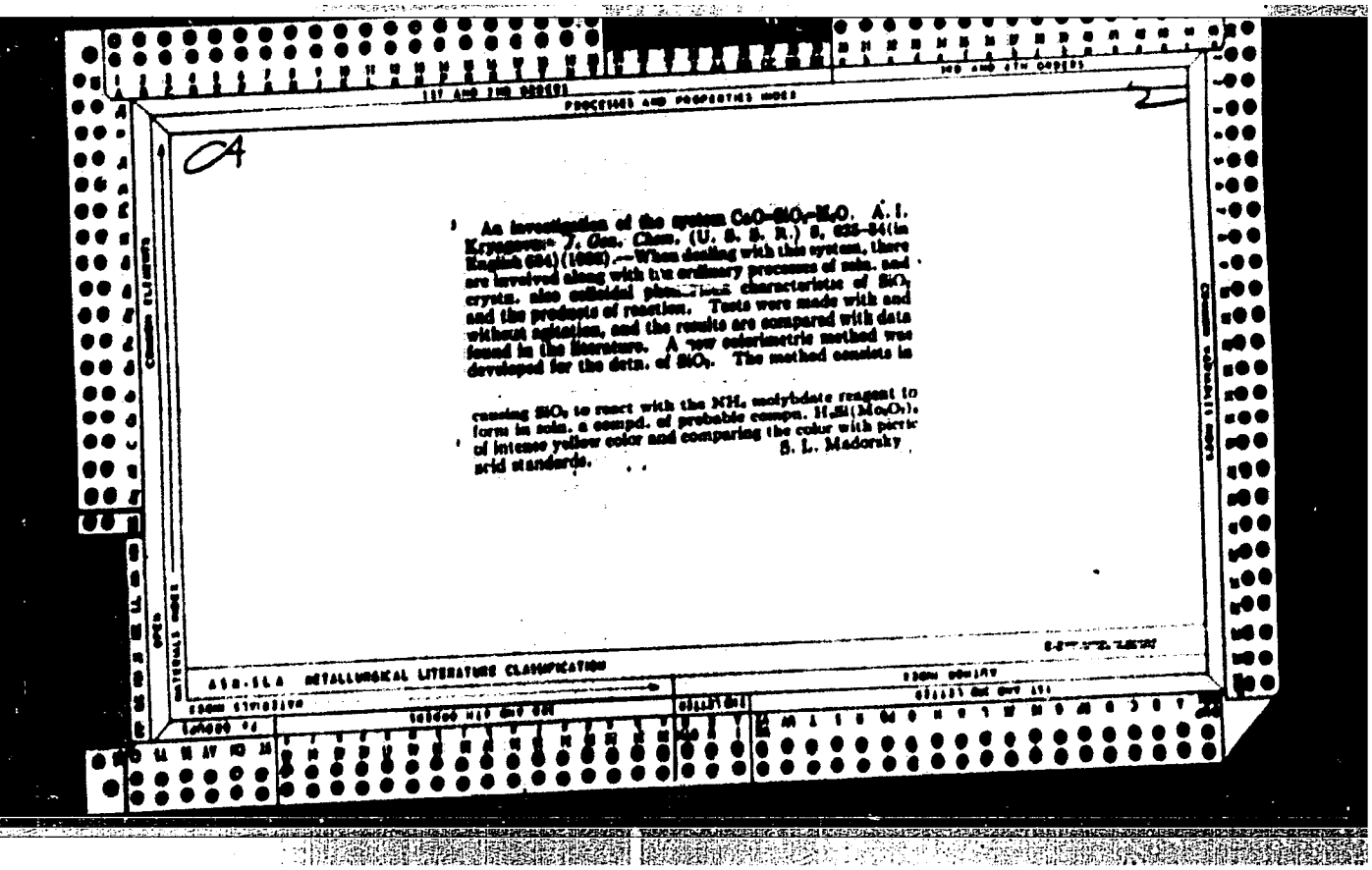


18

Ca

Treatment of waste from magnesite industry. A. K. Rasopina and A. I. Kryagova. *Kokil* 1935, No. 3, 18-26.—Waste from carnallite and $MgCl_2$ ents., after heating to a high temp., contains 20-50% MgO. Treatment of the powd. waste consisted in dissolving it in hot HCl and adding sufficient KCl to form carnallite, which crystallizes from the soln. on cooling. S. L. M.

A58-SL4 METALLURGICAL LITERATURE CLASSIFICATION

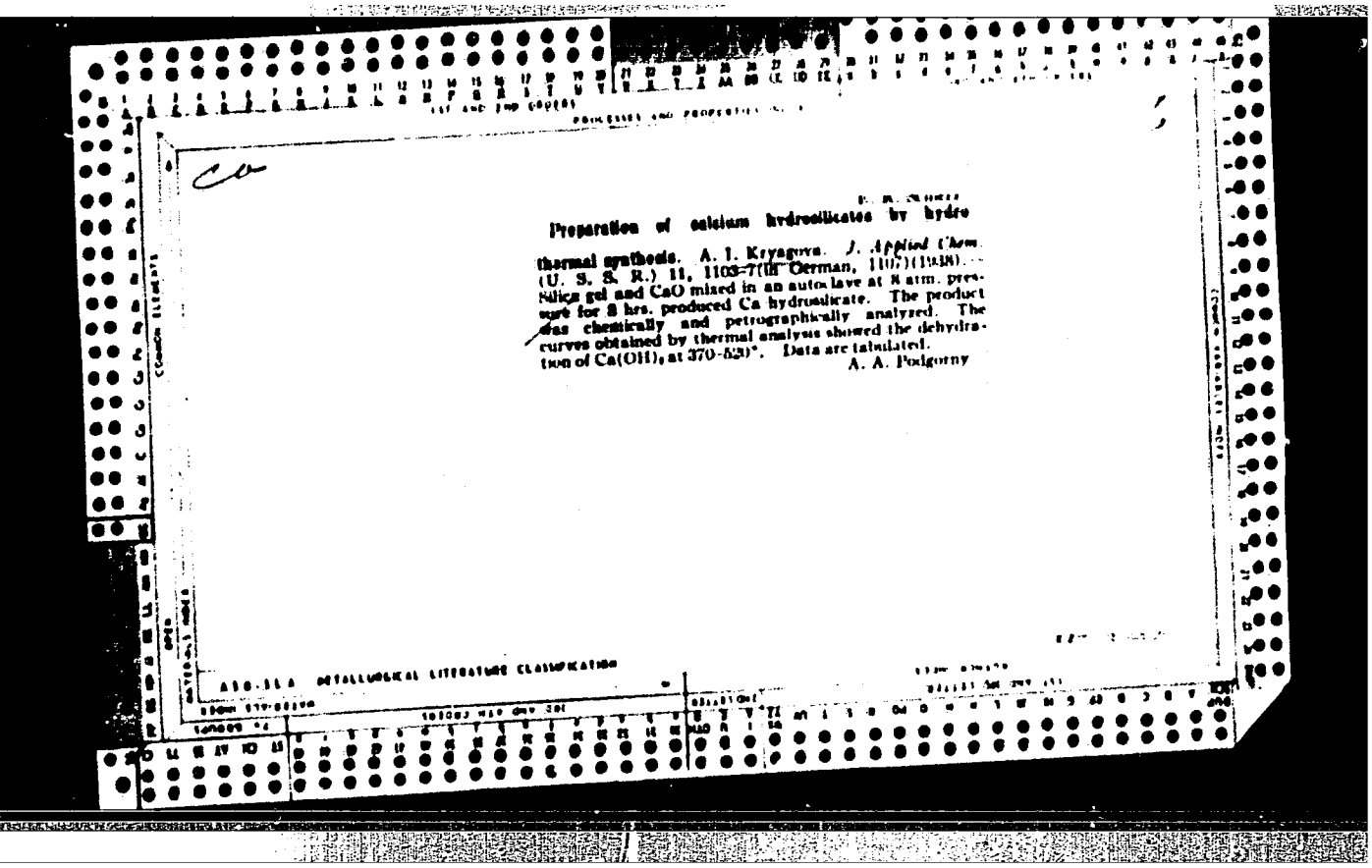


CA

An investigation of the system $CaO-SiO_2-H_2O$. A. I. Kryanovskii. *J. Gen. Chem.* (U. S. S. R.) 9, 625–34 (in English 634) (1939).—When dealing with this system, there are involved along with the ordinary processes of soln. and cryst. also colloidal phen. characteristic of SiO_2 and the products of reaction. Tests were made with and without agitation, and the results are compared with data found in the literature. A new colorimetric method was developed for the detn. of SiO_2. The method consists in causing SiO_2 to react with the NH_4 molybdate reagent to form in soln. a compd. of probable compn. $H_8Si(Mo_2O_7)_6$ of intense yellow color and comparing the color with permanent standards.

S. L. Madorsky

METALLURGICAL LITERATURE CLASSIFICATION



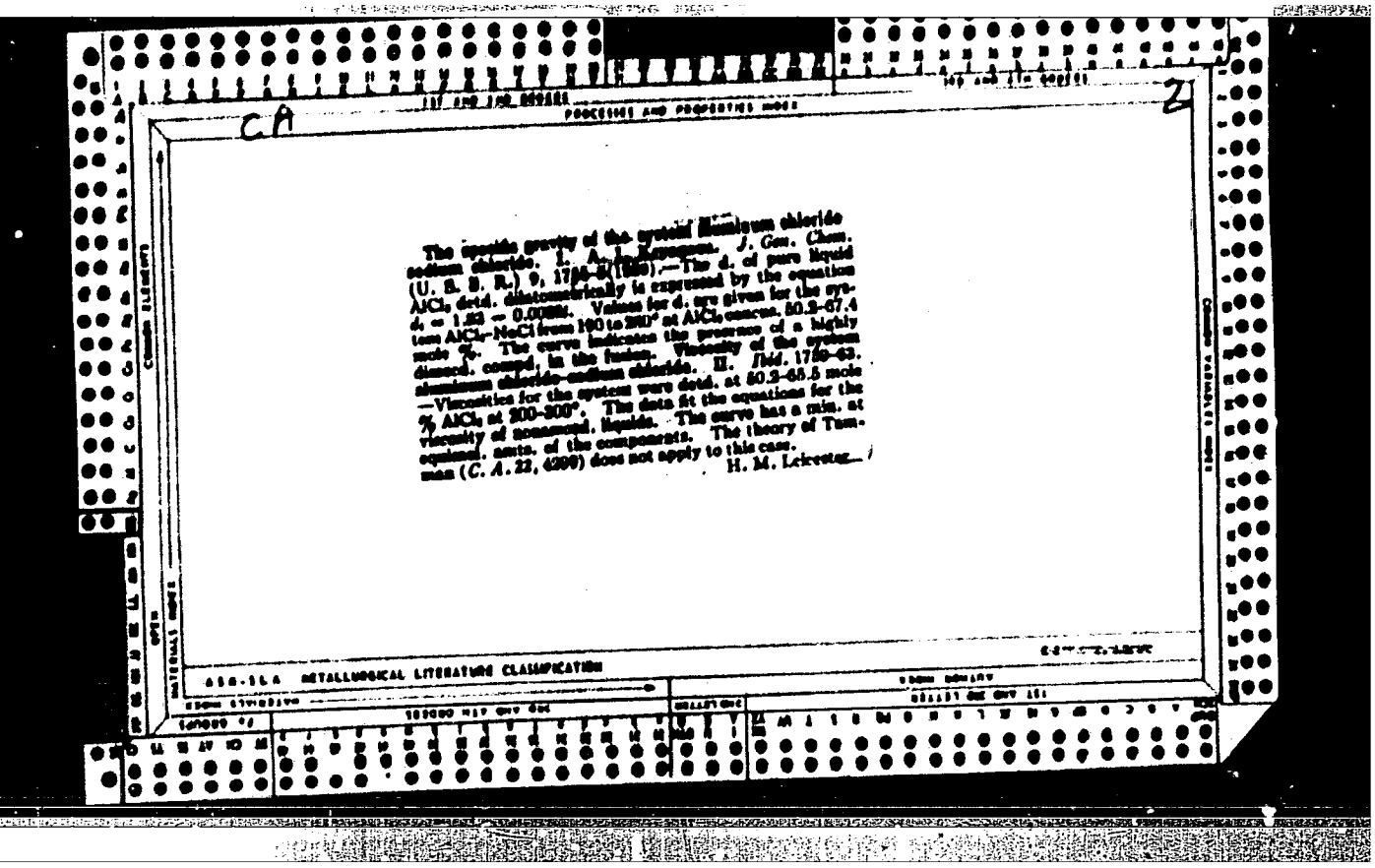
Ca

Preparation of calcium hydrosilicates by hydro

thermal synthesis. A. I. Kryagova. *J. Applied Chem.* (U. S. S. R.) 11, 1103-7(in German, 1107)(1938). Silica gel and CaO mixed in an autoclave at 8 atm. pressure for 8 hrs. produced Ca hydrosilicate. The product was chemically and petrographically analyzed. The curves obtained by thermal analysis showed the dehydration of $Ca(OH)_2$ at 370-520°. Data are tabulated.

A. A. Podgorny

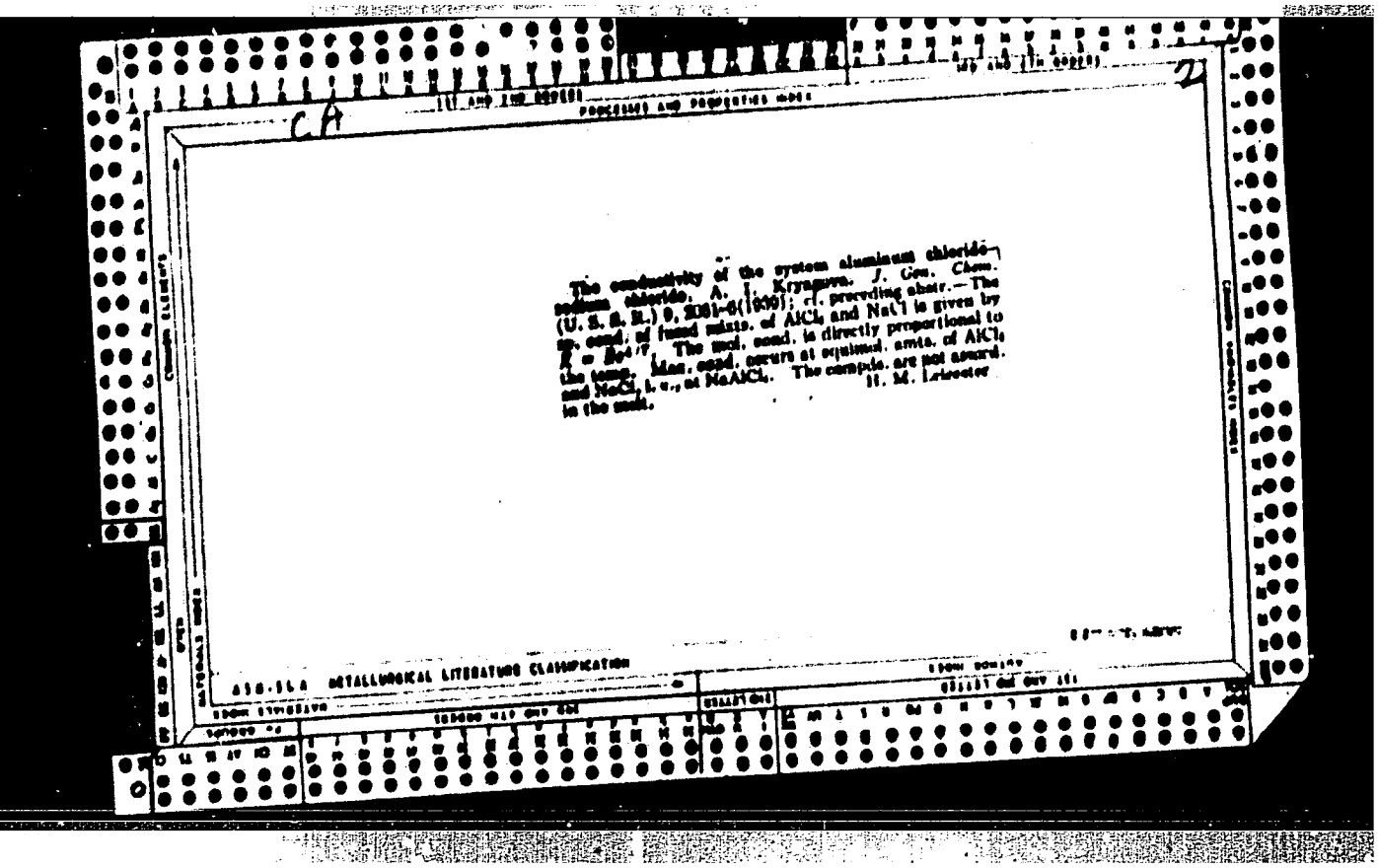
A50-51A METALLURGICAL LITERATURE CLASSIFICATION



CA

The specific gravity of the system aluminum chloride sodium chloride. I. A. Lebedeva. *J. Gen. Chem.* (U. S. S. R.) 9, 1784-8(1939).—The d. of pure liquid $AlCl_3$ detd. dilatometrically is expressed by the equation $d. = 1.83 - 0.0008t$. Values for d. are given for the system $AlCl_3$-NaCl from 190 to 280° at $AlCl_3$ concns. 50.2-67.4 mole %. The curve indicates the presence of a highly dissocd. compd. in the fusion. Viscosity of the system aluminum chloride-sodium chloride. II. *Ibid.* 1789-93. —Viscosities for the system were detd. at 50.2-66.5 mole % $AlCl_3$ at 200-300°. The data fit the equations for the viscosity of nonassocd. liquids. The curve has a min. at equimol. amts. of the components. The theory of Tammann (*C. A.* 22, 4200) does not apply to this case.

H. M. Leicester



The conductivity of the system aluminum chloride–sodium chloride. A. I. Kryagova. *J. Gen. Chem.* (U. S. S. R.) 9, 2281–6(1939); cf. preceding abstr.—The sp. cond. of fused mixts. of $AlCl_3$ and NaCl is given by $K = Be^{cT}$. The mol. cond. is directly proportional to the temp. Max. cond. occurs at equimol. amts. of $AlCl_3$ and NaCl, i. e., at $NaAlCl_4$. The compds. are not assumed in the melt.

H. M. Leicester

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000826820006-9"

KRYACOVA,A.S16 600

1. Kryagova, A. I.

2. USSR (600)

"Specific Gravities of the System $AlCl_3$-NaCL. I.", Zhur. Obshch, Khim., 9, No. 19, 1939. Leningrad Industrial Institute. Received 16 April 1939.

9. [redacted] Report U-1626, 11 Jan 1952.

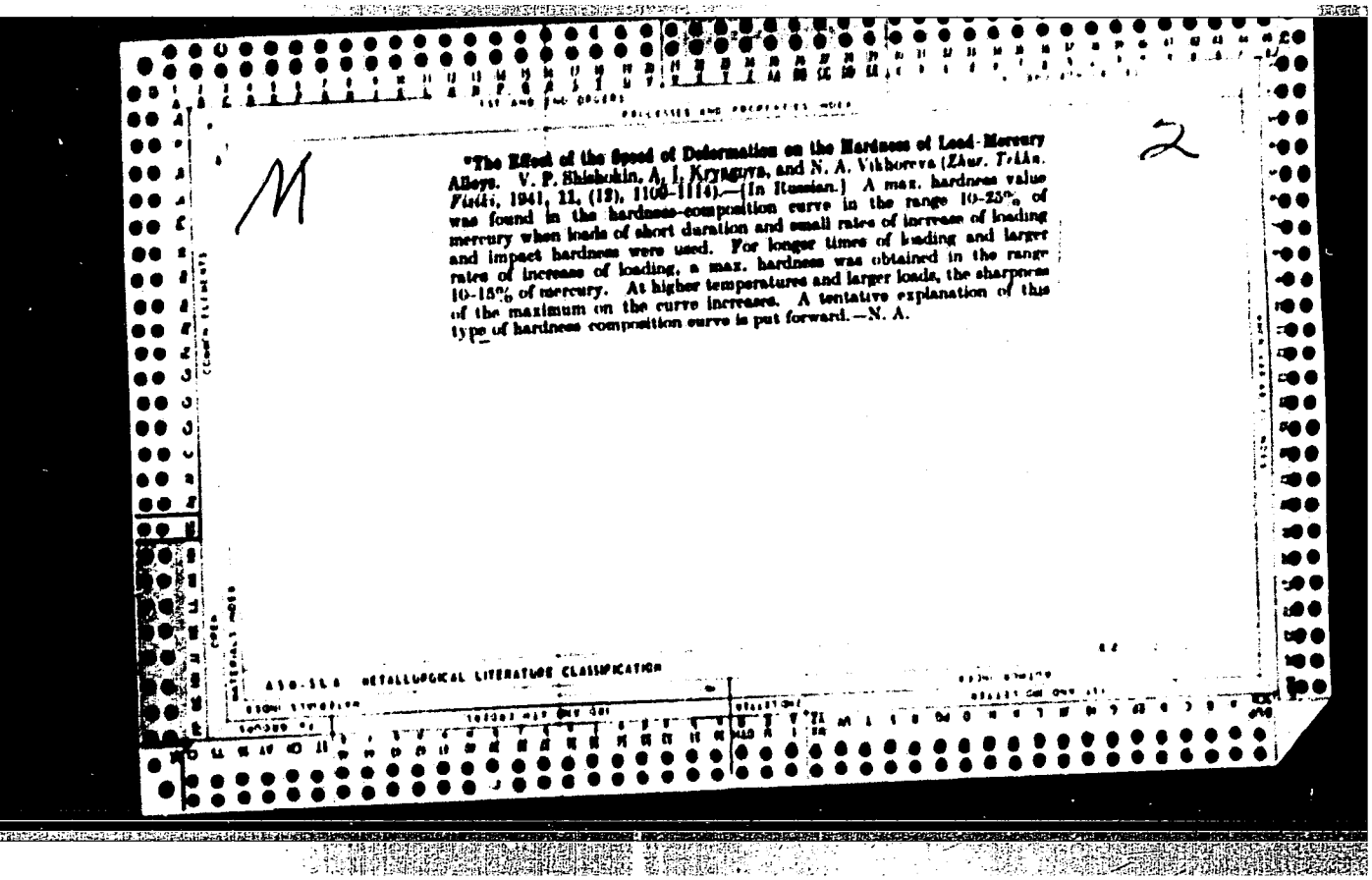
KRYAGOVA,A.A818 600

1. KRYAGOVA, A.I.

2. USSR (600)

"Electrical Conductivity of the System $AlCl_3$-NaCl", Zhur. Obshch. Khim 9, No. 22, 1939, Leningrad Industrial Inst. Received 29 May 1939.

9. [redacted] Report U-1626, 11 Jan 1952.



"The Effect of the Speed of Deformation on the Hardness of Lead-Mercury Alloys. V. P. Shishokin, A. I. Kuznetsova, and N. A. Vikhoreva (*Zhur. Tekh. Fiziki*, 1941, 11, (12), 1109–1114).—[In Russian.] A max. hardness value was found in the hardness-composition curve in the range 10–25% of mercury when loads of short duration and small rates of increase of loading and impact hardness were used. For longer times of loading and larger rates of increase of loading, a max. hardness was obtained in the range 10–15% of mercury. At higher temperatures and larger loads, the sharpness of the maximum on the curve increases. A tentative explanation of this type of hardness composition curve is put forward.—N. A.

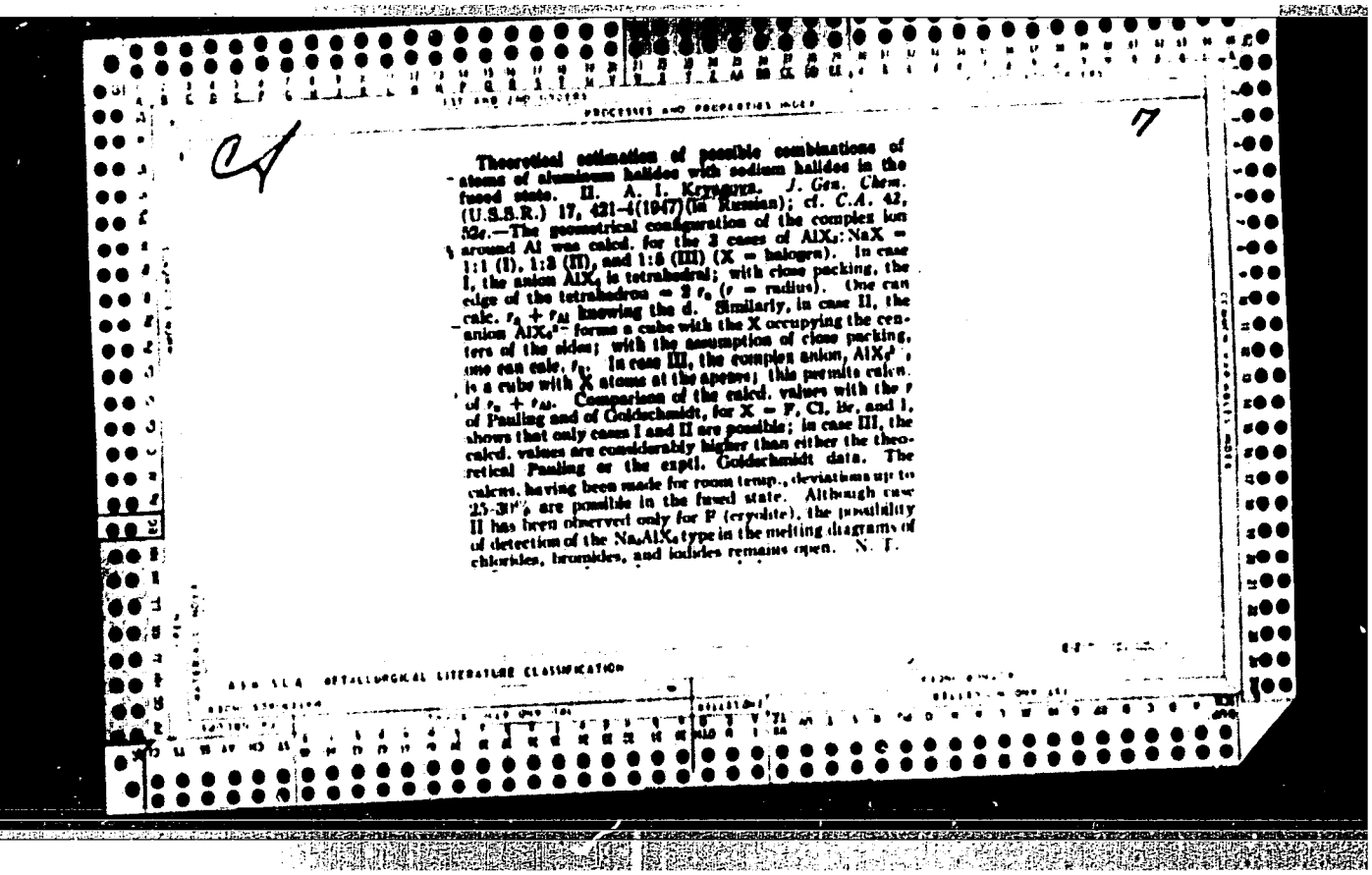
M

2

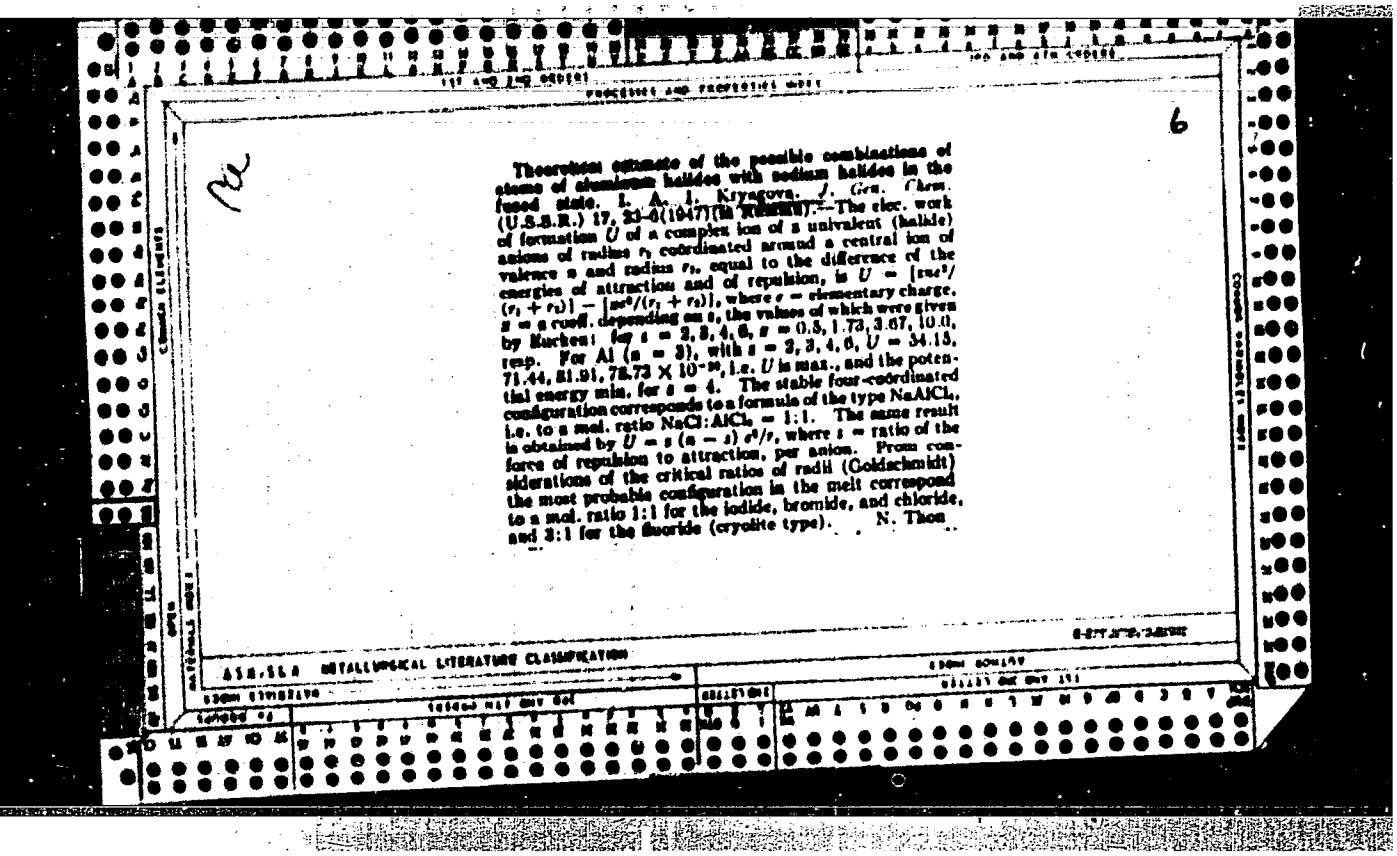
A.S.M. METALLURGICAL LITERATURE CLASSIFICATION

SHISHOKIN, V.P.; KHYAGOVA, A.I.

The interdependence of thermal isolation and the composition of Portland cement. Trudy Len.politekh.inst. no.4:95-99 '47. (MLRA 6:8)
(Cement)



Theoretical estimation of possible combinations of atoms of aluminum halides with sodium halides in the fused state. II. A. I. Kitaigora. *J. Gen. Chem.* (U.S.S.R.) 17, 421–4(1947)(in Russian); cf. *C.A.* 42, 52*e*.—The geometrical configuration of the complex ion around Al was calcd. for the 3 cases of AlX_3:NaX = 1:1 (I), 1:3 (II), and 1:6 (III) (X = halogen). In case I, the anion AlX_4^- is tetrahedral; with close packing, the edge of the tetrahedron = $2 r_x$ (r = radius). One can calc. $r_x + r_{Al}$ knowing the d. Similarly, in case II, the anion AlX_6^{3-} forms a cube with the X occupying the centers of the sides; with the assumption of close packing, one can calc. r_x. In case III, the complex anion, AlX_6^{3-}, is a cube with X atoms at the apexes; this permits calcn. of $r_x + r_{Al}$. Comparison of the calcd. values with the r of Pauling and of Goldschmidt, for X = F, Cl, Br, and I, shows that only cases I and II are possible; in case III, the calcd. values are considerably higher than either the theoretical Pauling or the exptl. Goldschmidt data. The calcns. having been made for room temp., deviations up to 25–31% are possible in the fused state. Although case II has been observed only for F (cryolite), the possibility of detection of the Na_3AlX_6 type in the melting diagrams of chlorides, bromides, and iodides remains open. N. T.



Theoretical estimate of the possible combinations of atoms of aluminum halides with sodium halides in the fused state. I. A. I. Kryagova. *J. Gen. Chem.* (U.S.S.R.) 17, 21-6(1947)(In Russian).—The elec. work of formation U of a complex ion of a univalent (halide) anions of radius r_2 coordinated around a central ion of valence n and radius r_1, equal to the difference of the energies of attraction and of repulsion, is $U = [ne^2/(r_1 + r_2)] - [ne^2/(r_1 + r_2)]$, where e = elementary charge, s = a coeff. depending on z, the values of which were given by Kucken: for $z = 2, 3, 4, 6$, $s = 0.5, 1.73, 3.67, 10.0$, resp. For Al ($n = 3$), with $z = 2, 3, 4, 6$, $U = 54.15$, 71.44, 81.91, 78.73 × 10^{-10}, i.e. U is max., and the potential energy min. for $z = 4$. The stable four-coördinated configuration corresponds to a formula of the type $NaAlCl_4$, i.e. to a mol. ratio NaCl:$AlCl_3$ = 1:1. The same result is obtained by $U = s(n - s)e^2/r$, where s = ratio of the force of repulsion to attraction, per anion. From considerations of the critical ratios of radii (Goldschmidt) the most probable configuration in the melt correspond to a mol. ratio 1:1 for the iodide, bromide, and chloride, and 3:1 for the fluoride (cryolite type). N. Thon

KRYAGOVA, A. I.

PA 10/49T25

USSR/Chemistry - Aluminum Compounds, With Halides Jun 48

Chemistry - Alkali Metal Halides

"Types of Compounds, Formed by Aluminum Halides With Alkali Metal Halides," A. I. Kryagova, 12 pp

"Zhur Priklad Khimii" Vol XXI, No 6

Examines data for systems formed by aluminum halides with alkali metal halides in solid and fused states. Many physicochemical methods of investigation permit assumption that there is a dissociated chemical compound in fused system. Shows possibility of other chemical compounds in systems examined. Submitted 2 Apr 47.

FDB

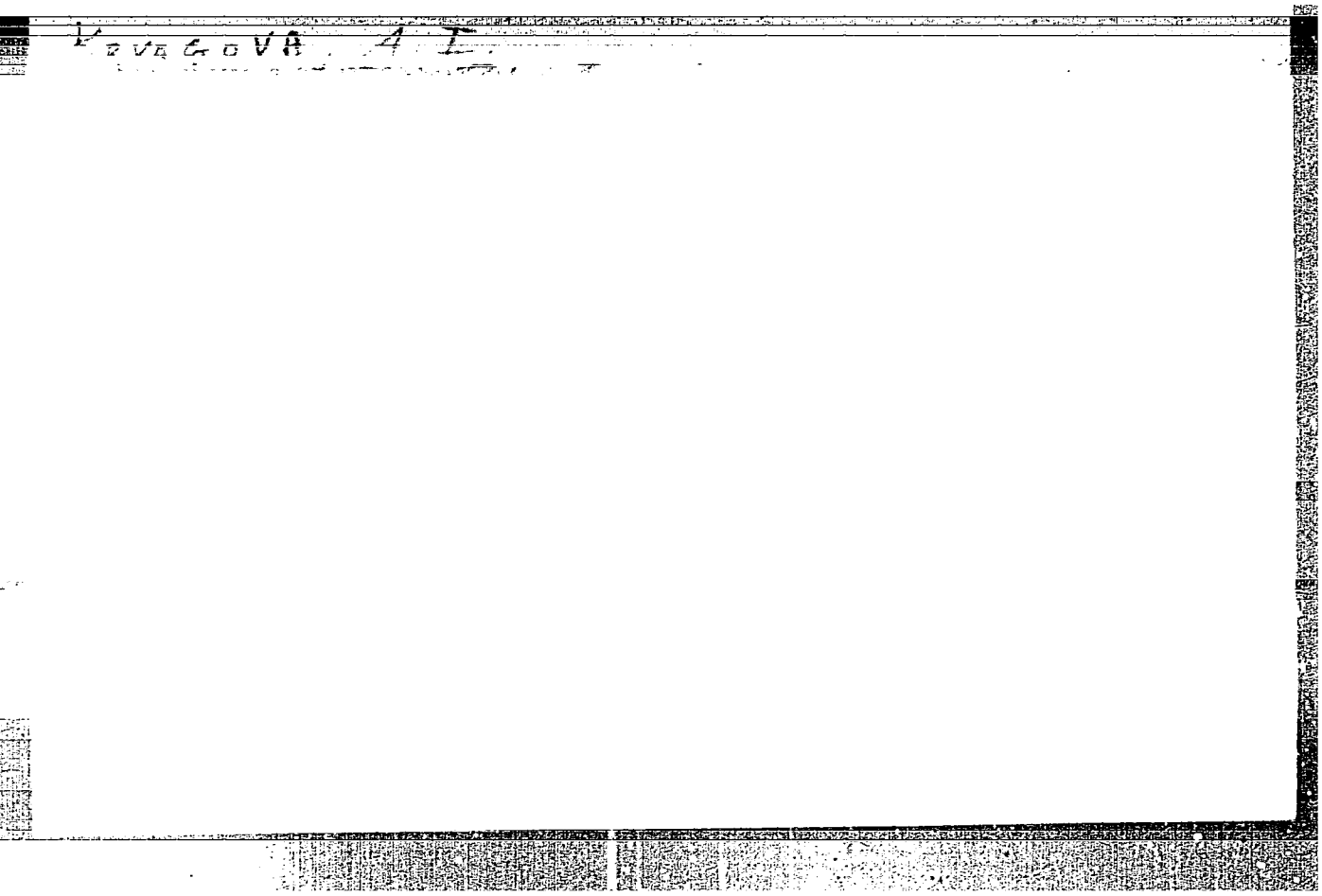
10/49T25

PROCESSES AND PROPERTIES INDEX

6

Types of compounds formed between aluminum halides and alkali metal halides. A. I. Kryagova. *Zhur. Prikl. Khim.* (J. Applied Chem.) 21, 661-73(1948); cf. C.A. 42, 5dz.—The available data on the structures and properties of AlX_3 (X = halogen) and their compds. with alkali metal halides, both solid and fused, are reviewed. The high m.p. of AlF_3 (1040°) indicating that this compd. is close to the ionic lattice NaF and MgF_2, and very distant from the covalent SiF_4 (m. −77°), notwithstanding the closeness of AlF_3 and SiF_4 with respect to their bonding (as revealed by x-ray diffraction), is explained by the inequality of the covalency (3) and the coördination no. (6) of Al in AlF_3; by its coördination no., AlF_3 is close to NaF, despite the different nature of the bonds; in SiF_4, the covalency and coördination no. are equal (4); this accounts for the low m.p. Similarly, the relatively low m.p. of $AlCl_3$ (194°), closer to $SiCl_4$ (−68°) than to NaCl or $MgCl_2$, is explained by its lattice, which consists of discrete mols. Al_2Cl_6. For compds. between AlX_3 and MX (M = alkali metal) in the fused state, the sums of the radii $r_{Al} + r_X$ are calcd., by geometric model considerations, for ions of the type AlX_4^- (tetrahedron), AlX_6^{3-} (octahedron) and AlX_8^{5-} (cube), corresponding, resp., to compds. of the type $AlX_3.MX$ (I), $AlX_3.3MX$ (II), and $AlX_3.5MX$ (III). The calcd. sums are compared with the values of Pauling and of Goldschmidt, and the deviation is taken to measure the probability of the given compd. On that basis, type I is shown to be the most probable for F, Cl, Br, and I, while type II is equally probable only for F, in agreement with known facts. N. Thon

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



SOV/149-58-4-12/26

AUTHOR: Kryagova, A.I.

TITLE: Methods of Compacting Spent Nickel Catalyst (Metodika polucheniya kompaktnoy massy iz otrabotannogo nikelevogo katalizatora)

PERIODICAL: Izvestiya Vyssikh Uchebnykh Zavedeniy, Tsvetnaya Metallurgiya, 1958, Nr 4, pp 91-95 (USSR)

ABSTRACT: The first stage of the present investigation consisted in studying the properties of spent nickel catalyst powder by X-ray, spectrographic, metallographic and other methods. It was shown that the spent catalyst is characterised by a slightly distorted cubic crystal lattice of metallic nickel and does not contain any significant quantities of nickel oxides. The particle size analysis was: +250μ to 0.8%; 250-150μ to 3.05%; 150-75μ to 6.22%; -75μ to 89.93%. According to the results of the chemical analysis the catalyst contained 98% Ni, 1.3% Al and 0.7% organic impurities, while spectrographic analysis showed also traces of iron. On the basis of these data the present Author developed a method (Ref.1) for regeneration of the spent catalyst which involved remelting the catalyst powder with, or

Card 1/4

without, an addition of metallic aluminium. Melting of powdered materials which always presents considerable difficulties resulted in this case in losses amounting to 40%, and the object of this investigation was to find a convenient means of converting the powdered material into a compact form. It was found that it is possible to compact the spent catalyst into briquets by application of pressure alone. (Difficulties encountered in removing the briquets from the die were overcome by application of a lubricant consisting of mineral oil thickened with calcium soap.) However, pressure of 3000-4000 kg/cm^2 is required to compact 50 g of the powder, so that this method is of little value in practical applications. Lower pressure was needed and larger (500 g) briquets could be obtained if a binder was used. Water, soap and starch solutions, tar, a solution of tar in benzene and some other binding media were tried. When water solutions were used for binding, the mechanical strength of the briquets was very low, although it could be improved by sintering

Methods of Compacting Spent [illegible] -4-12/26

at 750-800° in a [illegible] (500. g) mechanically strong [illegible] by adding 10% of liquid asphalt [illegible] compacting the mixture at [illegible]. Even larger [illegible] by cold pressing under 500 kg/cm² [illegible] catalyst is mixed with 13% of an emulsion of which is prepared by taking up a water solution containing 5.0% [illegible] and 0.04% NaOH, mixing it with an equal quantity [illegible], and passing the mixture through a colloidal [illegible] emulsion DS can also be used for compacting the [illegible] material without application of pressure. [illegible] quantity (13%) of the emulsion is mixed with the moist catalyst to form a lumpy conglomerate which in the course of a few weeks gradually loses the [illegible] with a

Card 3/4

Methods of Compacting Spent Nickel Catalyst 137-58-4-12/26

corresponding increase of its [illegible] and mechanical strength. There are 3 tables, [illegible] figure and 4 Soviet references.

ASSOCIATION: [illegible] Institut. Kafedra Obshchey [illegible] Institute of Mechanical [illegible] Chemistry)

SUBMITTED: 7th April 1958.

Card 4/4

KRYAGOVA, A.I.

Determining the microstructure and microhardness of alloys as a method of controlling the quality of skeletal nickel catalysts. Izv.vys.ucheb.zav.; tsvet.met. 5 no.1:139-141 '62. (MIRA 15:2)

1. Leningradskiy mekhanicheskiy institut.
(Nickel catalysts) (Alloys—Metallography)

VAYTKUNENE, L.; KRYAGZHDE, S.

Baltic area psychological conference. Vop. psikhol. 6 no.5:170-172 S-O '60. (MIRA 13:11)

(Baltic Sea region—Psychology)

KRYAKIN, A. V.

USSR/Chemistry - Physical chemistry

Card : 1/1

Authors : Kryakin, A. V. and Terenin, A. N.

Title : Effect of oxygen condensation on the flourescence and absorption spectrum of anthraquinone derivatives in adsorbed state.

Periodical : Dokl. AN SSSR, 97, Ed. 3, 479 - 482, July 21, 1954

Abstract : The oxygen extinction of the fluorescence of anthraquinone derivatives in gaseous and adsorbed states was investigated to determine the initial stages of oxygen addition and its reactions with molecules of the numerous $C_{14}H_8O_2$-derivatives. It was established that $C_{14}H_8O_2$ derivatives have a sharply expressed selectivity for the extinction of fluorescence with gaseous oxygen, depending upon the position of the substitute. The absence of fluorescence extinction with oxygen was attributed to the intramolecular H-bond when the O_2 molecule does not affect H in the OH and NH_2 groups but the carbonyl anthraquinone group and its derivatives. Five USSR and 1-German references. Graphs.

Institution : ...

Submitted : May 20, 1954

KRYAKIN, M., polkovnik

More attention to the study of military art and science. Komm. Vooruzh.sil 2 no.7:73 Ap '62. (MIRA 15:3)
(Military art and science)

KRYAKIN, V.

Meet the Krasnodon miner demands. Bezop. truda v prom. 1 no.2:36 F '57. (MIRA 10:4)

1. Brigadir zaboyshchikov shakhtoupravleniya no.18-20 tresta Krasnodonugol'.

(Krasnodon District--Coal mines and mining--Safety measures)

KRYAKOV, I. M.

PA 1/50T24

USSR/Engineering - Welding, Electric Aug 49
Welding, Arc

"Development of Electric Welding at the 'Krasnoye Sormovo' Plant imeni A. A. Zhdanov (One Hundredth Anniversary)," I. M. Kryakov, Engr, 4½ pp

"Avtogen Delo" No 8

Discusses (1) preparatory period (1923 - 1939); (2) fields in which electric arc welding is used--(a) shipbuilding, (b) steam-locomotive construction, (c) railroad-car construction, (d) machine building, (e) production of container working under pressure; (3) World War II

1/50T24

USSR/Engineering - Welding, Electric Aug 49
(Contd)

Period; and (4) Postwar period. Includes ten photographs.

1/50T24

KRYAKOV, P.A.; SEMENOV, D.I.

Collector of fractions. Zav.lab. 27 no.2:222-223 '61. (MIRA 14:3)

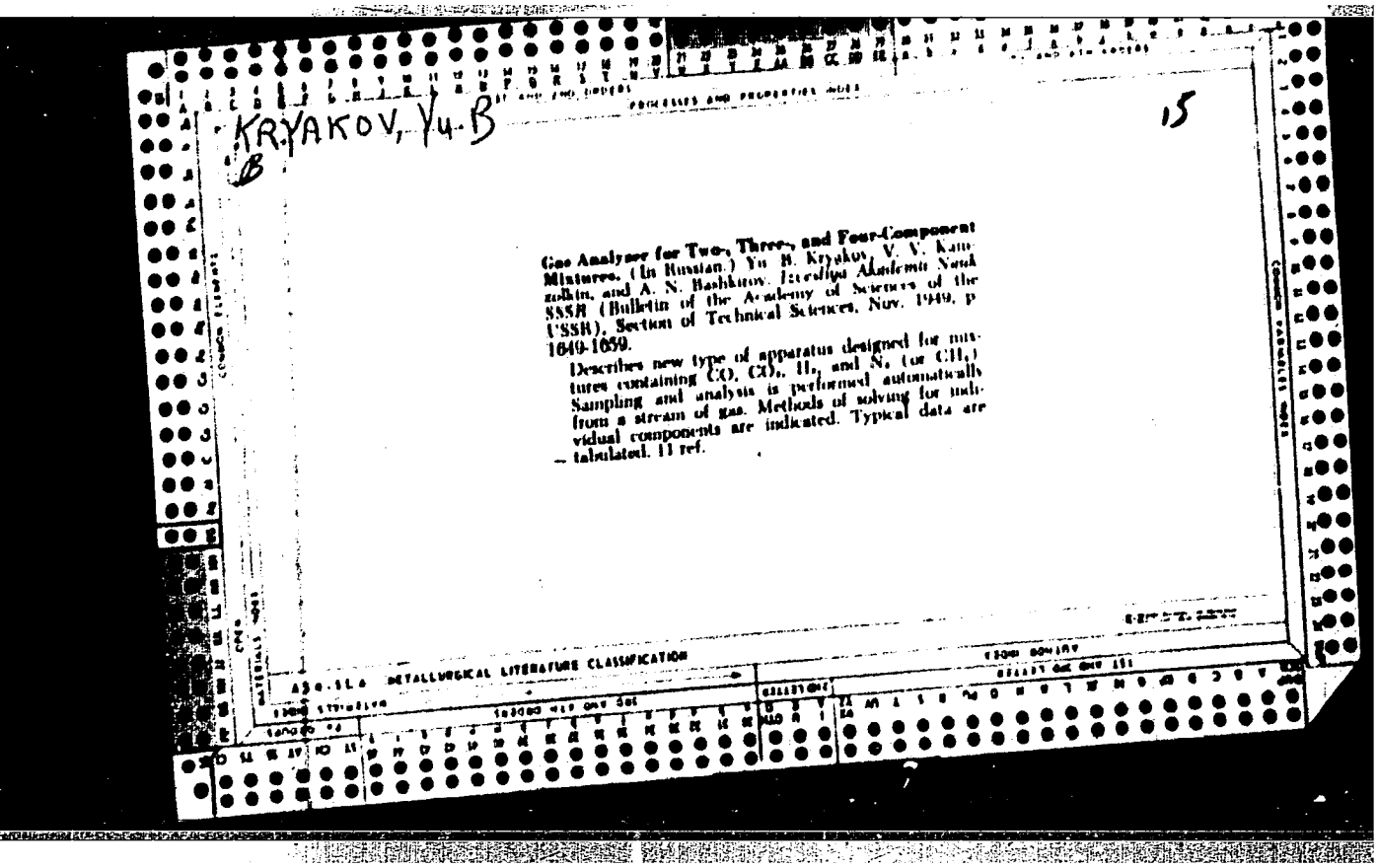
1. Gidrokhimicheskiy institut AN SSSR.
(Soil research)

KRYAKOV, V., inzh.

Increasing use of silicalcite building materials. Pozh. delo 7 no. 1:13 Ja '60. (MIRA 14:2)
(Sand-lime products) (Building materials--Testing)

KRYAKOV, V.P.; ALEKSEYEV, M.V., dotsent, rukovoditel' raboty

Fire hazards of the thermal processing of oil shale using solid heat carriers. Pozh. bezop. no.4:32-37 '65.
(MIRA 19:1)



KRYAKOVSKIY, I.V.

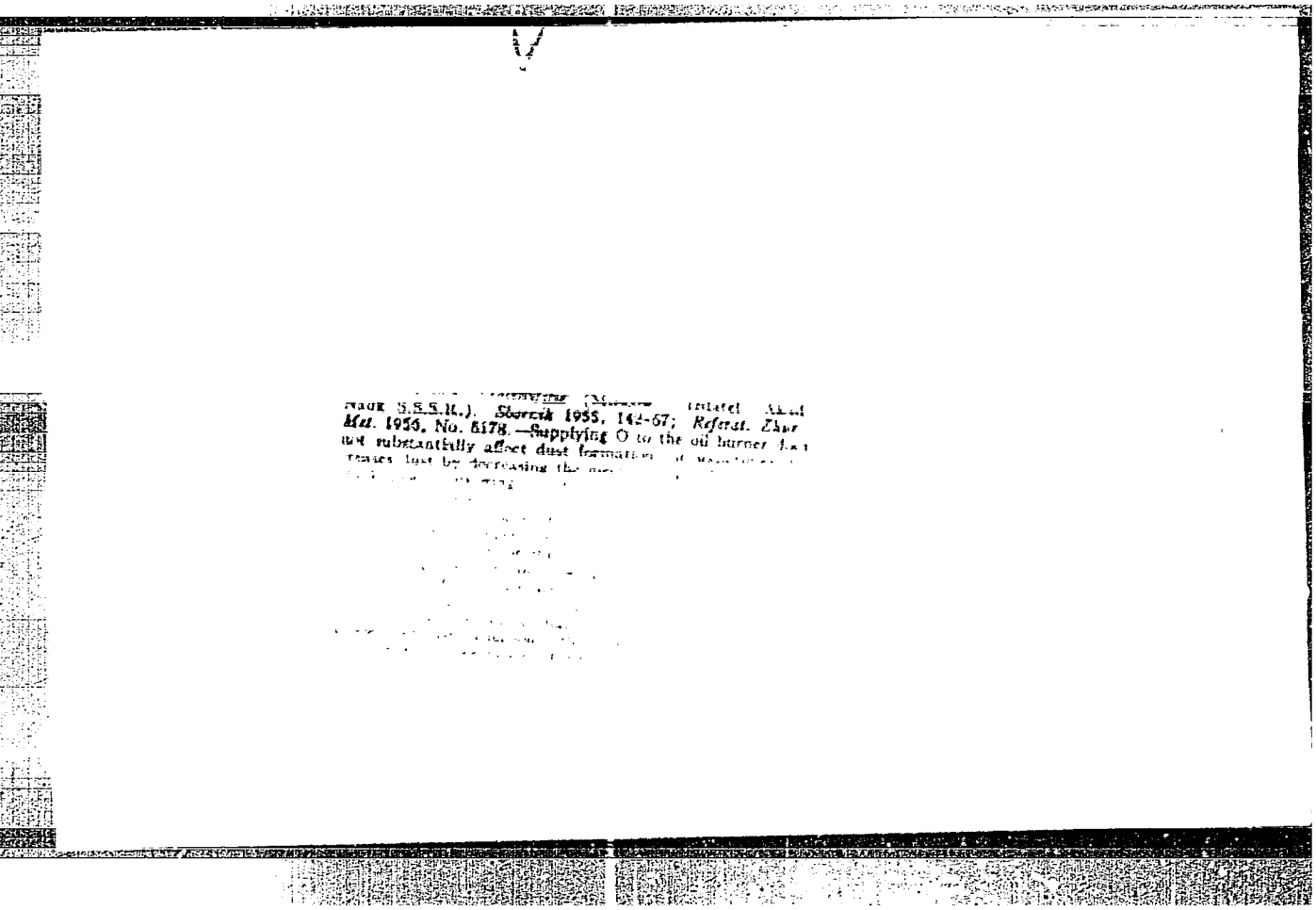
Geographic excursions and trips. Geog. v shkole 19 no.3:55-56 My-Je '56. (MLRA 9:9)

1.56-ya shkola gorода Ivanova.
(School excursions) (Geography--Study and teaching)

ZHILINSKIY, Kazimir Ianovich; BLINKOV, L.M., inzh., retsenzent; RAUSH, O.I., inzh., retsenzent; FAVOROV, B.P., nauchnyy red.; KUSKOVA, A.I., red.; ERASTOVA, N.V., tekhn. red.; KRYAKOVA, D.M., tekhn. red.

[Heat insulation of ships]Sudovaia teploizoliatsiia. Izd.2., perer. i dop. Leningrad, Sudpromgiz, 1962. 404 p. (MIRA 16:2)

(Insulation (Heat)) (Shipbuilding materials)



Nauk S.S.S.R.). *Stanok* 1955, 142-67; *Referat. Zhur. Mat.* 1956, No. 5178.—Supplying O to the oil burner [illegible] not substantially affect dust formation [illegible] gases but by decreasing the [illegible]

SOV/137-58-10-20555

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 10, p 30 (USSR)

AUTHOR: Kryakovskiy, Yu.V.

TITLE: Dust Formation in High Molten Pig-iron Practice (Pyleobrazovaniye pri skrap-rudnom protsesse)

PERIODICAL: Sb. tr. Tsentr. n.-i. in-t chernoy metallurgii, 1956, Nr 13, pp 142-152

ABSTRACT: Ref. RZhMet, 1956, Nr 6, abstract 5178

1. Iron--Production 2. Particles (Airborne)--Theory

Card 1/1

KHYAKOVSKIY, Yu.V., Kandidat tekhnicheskikh nauk.

Dust formation during the scrap metal process. Sbor.trud.TSNIICHM no.13:142-152 '56. (MLRA 9:11)

1. Moskovskiy institut stali.
(Open-hearth process)

KRYAKOVSKIY, Yu. V.

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Moscow. Institut stali

Primeneniye kisloroda v staleplavil'nom proizvodstve (Use of Oxygen in Steelmaking) Moscow, Metallurgizdat, 1957. 418 p. (Series: Its: Sbornik, 37) Errata slip inserted. 3,500 copies printed.

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PURPOSE: This collection of articles is intended for scientific, industrial, chemical, and metallurgical engineers, physicists and students.

COVERAGE: This book is a collection of scientific research papers on the utilizations of oxygen in steelmaking. The use of oxygen blast for the intensification of fuel combustion and the introduction of oxygen into liquid metal in order to oxidize admixtures are among the topics discussed. The use of oxygen in scrap-ore processes for making steel from pig iron with a high phosphorus content is also discussed. Several articles deal with the heating and processing fundamentals of steelmaking in a recirculation steel-melting furnace. Individual articles deal with the economics of steelmaking with oxygen-blast and the optimum conditions for effective utilization of oxygen. No personalities are mentioned. References follow each article.

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Use of Oxygen in Steelmaking SOV/2295

AVAILABLE: Library of Congress

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10-12-59

SOV/137-58-7-14361

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 7, p 59 (USSR)

AUTHORS: Kryakovskiy, Yu.V., Orlov, V.I., Yun Son Chol'

TITLE: Dust Formation in the Open Hearth in the Scrap-and-ore Process (Pyleobrazovaniye v martenovskoy pechi pri skrap-rudnom protsesse)

PERIODICAL: V sb.: Primeneniye kisloroda v metallurgii. Moscow, Metallurgizdat, 1957, pp 119-137

ABSTRACT: A study is made of the formation and carry-off of smelting dust in 185-t furnaces of the Zaporozhstal' Plant when O_2 is used directly in the bath and in the flame, and when as much as 25 and 30% O_2 is added to the air. The dust contents of the combustion products are determined by sampling them in the air uptakes by means of a water-cooled pipe, the inlet of which is mounted in line with the flow of flue gases, and by passing these gases through glass jars half full of distilled water, where the dust is trapped. The rate of suction is regulated by the vacuum in the system produced by an ejector pump. Lack of uniformity in the dust contents of the combustion products at various times during heats with and without oxygen is noted;

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Dust Formation in the Open Hearth in the Scrap-and-ore Process

the maximum dust content in the combustion products was found during the pig-iron addition, the minimum during the period of deoxidation when the bath was quiet. The formation of dust when the flame was enriched by a limited amount of oxygen (25% O_2) differs only insignificantly from the formation of dust in heats without oxygen and does not exceed 2 kg/m^3 [should be g/m^3. Transl. Ed. Note]. When the jet of flame is enriched by 30% O_2, intensive formation of dust is observed: up to 8 g/cm^3 during melting and 5 g/m^3 during the working period. When the bath is blown with O_2, the dust content of the products of combustion sometimes rises to 26 g/m^3. Dust formation proceeds most intensively at elevated [C] both when O_2 is fed into the jet of flame and when it is blown into the metal. In all cases, the dust consists primarily (70-92%) of Fe oxides.

1. Open hearth furnaces--Performance 2. Particles (Airborne)--Determination
3. Oxygen--Applications

A.S.

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SOV/137-58-11-22076

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 11, p 35 (USSR)

AUTHORS: Oyks, G. N., Kryakovskiy, Yu. V., Grigor'yev, V. P.

TITLE: Intensifying Open-hearth Conversion of High-phosphorus Pig Iron by Introducing Oxygen Into the Bath (Intensifikatsiya predela vysokofosforistogo chuguna v martenovskoy pechi vvedeniyem kisloroda v vannu)

PERIODICAL: Sb. Mosk. in-t stali, 1957, Vol 37, pp 138-151

ABSTRACT: Heats in which the bath was blown with technically pure O_2 are run in tilting 350-t open-hearth furnaces at the Azovstal' plant, utilizing the high-molten pig iron practice, with consumption of ~75% of the pig iron (P 1.6%). The O_2 is introduced by lance from the backwall of the furnace, primarily during the melting period. Each 1000 m^3 of O_2 consumed in the blow reduces the duration of the melting and working period by 57 minutes and increases the rate of P and C elimination by 25%, while reducing fuel consumption. When 5.8 m^3/t O_2 is used to blow the metal, furnace output rises by 15%. As a result of the accelerated burning out of the impurities, the temperature of the metal (Me) is 50-70°C higher in heats with oxygen blow than in heats when the O_2 is delivered into the burner jet. The

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Intensifying Open-hearth Conversion of High-phosphorus Pig Iron (cont.)

formation of reactive basic slag is accelerated. When the O_2 is delivered into the Me during the finishing period, reduction in the finishing and pure-boil periods is 38 minutes in the case of rail and 44 minutes in the case of rimmed St per 1000 m^3 of O_2. When the rate of delivery of O_2 during the melting period is increased to 1200 m^3/hr, an increase in the burning off of C and P occurs. When the hourly consumption of O_2 is increased to above 1200 m^3/hr, the rate of P removal diminishes. This is explained by the fact that the rates of formation of reactive slag and the rate of temperature increase differ. This does not occur during the finishing period when formed slag is already present. Further improvement in furnace output rate should be sought in the direction of increasing the consumption of O_2 used in the blow, accompanied by changing those factors in the process that govern and speed slag formation.

Yu. K.

1. Kafedra metallurgii stali Moskovskogo instituta stali im. I.V. Stalina.

Card 2/2

SOV/137-58-10-20550

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 10, p 29 (USSR)

AUTHORS: Oyks, G.N., Kryakovskiy, Yu.V., Kapustin, Ye.A., Grigor'yev, V.P.

TITLE: The Efficiency of Oxygen in Enriching the Blow in Conversion of High-phosphorus Pig Iron in Open Hearths (Effektivnost' primeneniya kisloroda dlya obogashcheniya vozdukha pri peredele vysokofosforistogo chuguna v martenovskikh pechakh)

PERIODICAL: Sb. Mosk. in-t stali, 1957, Vol 37, pp 152-165

ABSTRACT: O_2 is delivered through water-cooled tuyeres and at an angle of 12-13° into the flame jet of the 350 t furnaces at the Azovstal' Plant. Analysis of data as to the efficiency of the effect of enriched air at various thermal loads shows that enrichment of the air up to 27% during charging and melting down and up to 25% during hot-metal addition and melting makes it possible to shorten the melt by 44 min. An increase in the heat input (at identical degrees of enrichment of the air) to 32 mill. kcal/hr reduces the melt by 1 hr. 20 min. Subsequent increase in the heat input reduces the time saving apparently due to overheating of the charge. In determining the efficiency of O_2 it is

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The Efficiency of Oxygen in Enriching the Blow (cont.)

found that rates of delivery up to 500 m^3/hr do not shorten the melt. An increase in O_2 consumption of up to 2500 m^3/hr induces reduction in melt time. The consumption of fuel, in convential units, is reduced, and the unit consumption of O_2 is increased. At another percentage of oxygen, the maximum efficiency is attained by the use of O_2 during the periods of charging, melting down, and hot-metal addition, when there is a considerable temperature drop between the loaded charge and the flame. In all variants, reduction in melt time is primarily in the melt-down and working periods, as the other periods undergo little change. It is emphasized that the maximum possible and the optimum values for enrichment of the air have not been found, and these are most important for the charging and melting-down periods. Delivery of O_2 into the flame speeds the heating and melting down of the charge, and makes for more rapid processes of slag formation and dephosphorization.

1. Iron--Production effects 2. Open hearth furnace--Operation 3. Oxygen--Thermal

Ye.T.

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SOV/137-58-11-22077

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 11, p 35 (USSR)

AUTHOR: Kryakovskiy, Yu. V.

TITLE: Dust Formation in an Open-hearth Furnace in Solid-steel Charge Practice (Obrazovaniye pyli v martenovskoy pechi pri skrap-protsesse)

PERIODICAL: Sb. Mosk. in-t stali, 1957, Vol 37, pp 260-280

ABSTRACT: A special device, a drawing of which is presented, is used to determine the quantity of melting dust (D) in the waste gases in the systems of 70-t basic heavy-oil-burning open-hearth furnaces. The measurements were run both in heats without O_2 and with delivery of O_2 into the flame jet and into the bath. The results of measurements in the uptake show that when the air is enriched in O_2 to 26.5-31.0% during the charging period, there is somewhat of a decline in D with a percentual rise in O_2. The utilization of enriched air in the melting period results in an increase in D from 2.77 to 4.39 g/m^3. The average quantity of D in the waste gases of the uptake during the charging period was 1.52 g/m^3, but rose during the melting period, as the charge heated, to 5.48 g/m^3. As the slag cover formed, there was a decrease, and the figure was 1.16 g/m^3 during the period of boil. When the metal (Me) was blown with O_2

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Dust Formation in an Open-hearth Furnace in Solid-steel Charge Practice

through Fe lances, the quantity of D increased sharply, fluctuating in the 7.0- 47.7 g/m^3 range. An increase in [C] and in O_2 sharply accelerates the process of D formation and carry-off. The increase in D formation when the Me is blown with O_2 is explained by intensification of the process of Me evaporation in the local high-temperature zone. Another cause of D formation is mechanical carry-off of Me particles by the gases. It is recommended that low-carbon Me be blown with O_2 at low pressure, with deep immersion of the lance. In heats not employing oxygen, 51.5% of the D in the uptake gases settled in the slag pockets, 26.7% in the checker chambers, and 21.8% was carried off into the flues. When the Me is blown with O_2, 60.0% of the D settles in the slag pockets and 18.9% in the checker chambers. Melting D consists chiefly of rounded particles ranging from 5 or less to 100 microns. The major component consists of Fe oxides. Individual measurements showed as much as 30% C soot in the D during the charging period. Data are presented on change in the composition of magnesite chrome and conventional silica brick after service in the brickwork of an open-hearth furnace.

Yu. K.

ABROSIMOV, Yevgeniy Vasil'yevich; ANSHELES, Il'ya Iosifovich; KUDRIN, Viktor Aleksandrovich; KRYAKOVSKIY, Yuriy Vasil'yevich; ORLOV, Vladimir Ivanovich; YAVOYSKIY, V.I., prof., doktor tekhn. nauk, nauchnyy red.; GROMOV, N.D., red. izd-va; MIKHAYLOVA, V.V., tekhn. red.

[Metallurgy of steel; general course] Metallurgiia stali; obshchii kurs. By E.V.Abrosimov i dr. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1961. 679 p. (MIRA 14:10)
(Steel—Metallurgy)

YAKUSHEV, A.M.; YAVOYSKIY, V.I.; KRYAKOVSKIY, Yu.V.; Prinimali uchastiye: TYURIN, Ye.I., kand.tekhn.nauk; KRAUZE, I.E., kand.tekhn.nauk; VISHKAREV, A.F., kand.tekhn.nauk

Effect of rare earth elements on hydrogen solubility in liquid iron. Izv. vys. ucheb. zav.; chern. met. 4 no.7:44-54 '61. (MIRA 14:8)

1. Moskovskiy institut stali.
(Iron—Hydrogen content)
(Rare earth metals)

S/130/6[illegible]
A006/A[illegible]

AUTHORS: Yakushev, A. M., Kryakovskiy, Yu. V., Tyurin, Ye. I., Serekin, S. I., Yavoyskiy, V. I., Glushtshov, M. V.

TITLE: The effect of rare-earth elements on flake sensitivity of structural alloyed steels

PERIODICAL: Metallurg, no. 12, 1961, 9-11

TEXT: There are only few data available on the effect of rare-earth elements on hydrogen behavior in iron and steel and the resulting defects. To complete these data, workers of the Moscow Steel Institute and the "Krasnyy Oktyabr'" Plant carried out a series of laboratory and industrial melts. They were assisted by L. N. Permyakov, M. P. Lapshova, O. D. Petrenko, V. G. Volnyanskiy, G. R. Opanchevich, V. A. Grigor'yev and V. P. Bondarev. They studied the effect of the amount of rare-earth elements (0.3 and 0.5%) on hydrogen solubility in iron and the effect of the temperature on hydrogen solubility in alloys with 20% and more of these elements. The results have shown that it cannot be expected that rare-earth elements in the given amounts will eliminate defects of the steel; on the other hand, the increasing hydrogen sorption capacity at lower

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The effect of rare-earth elements ...

temperatures of alloys containing these elements leads to the expectation that they will bind the hydrogen liberated during the cooling of metal and prevent flake formation. These results were checked by the experimental melting of 37XC (37KhS), 38XCA (38KhSA) and 36G2C (36G2S) steels containing 6.3 - 8.0 cm^3/100 g hydrogen, ferrocerium with 94 - 96% Ce, misch metal with 45 - 55% Ce, 25 - 30% La and up to 15% other rare-earth elements. Ingots were heated for 4 - 6 hours at 1,150 - 1,180°C in bloomingpits and rolled into 400 - 500 mm air-cooled specimens, which were subjected to breaking tests and etching to establish their flake sensitivity. Results obtained are given in a table and show that the addition of rare-earth elements in amounts exceeding 2.7 kg/t prevent flake formation in 37KhS and 36G2S steel even in profiles of 195 - 225 mm section, under the condition that individual blooms be air-cooled. The experiment has shown that rapid cooling of the blooms will be possible due to the use of rare-earth elements. This will entail a number of economical and technical advantages. There are 1 table and 2 figures.

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E071/E435

18.1100

AUTHORS: Vishkarev, A.F., Kryakovskiy, Yu.V., Bliznyukov, S.A., Yavoyskiy, V.I.

TITLE: Influence of rare earth elements on the surface tension of liquid iron

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Chernaya metallurgiya, no.3, 1962, 60-67

TEXT: The surface activity of rare earth elements in iron is of importance from the point of view of their modifying effect which is caused by preferential adsorption of surface active components on faces of growing crystals, inhibiting their growth. In multi-component systems, changes in the surface tension could be due not only to the adsorption of a given component but also due to various physico-chemical processes taking place in the melt (e.g. deoxidation, desulphurization, changes in the activity of other components), for this reason the influence of rare earth elements on the surface tension of specially purified liquid iron was measured (not more than: 0.020% C, 0.015% Mn, 0.005% Si, 0.0028% P, 0.002% S and 0.003% O_2). The method

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Influence of rare earth ...

consisted of measuring the maximum pressure of gas bubbles in vacuo or in a controlled atmosphere. Well purified argon was used for blowing bubbles and as a protective atmosphere. The apparatus and experimental procedure are described in some detail. It was found that cerium and lanthanum are surface active. In all cases, first additions of cerium (up to 0.45%) lower the surface tension of iron by 100 to 120 erg/cm^2, whilst further addition of cerium increases the surface tension of iron due to its reaction with oxygen and sulphur. Lanthanum acts similarly but a decrease in the surface tension was noted only after the first addition (0.1%). This is explained by a higher deoxidizing and desulphurizing ability of lanthanum in comparison with cerium. The influence of the admixtures present in iron on changes in the surface tension on the addition of rare earth elements (Ce, La, Nd, Pr) was demonstrated by using ordinary armco iron and carrying out experiments without a protective atmosphere. In this case additions of rare earth elements caused an increase in the surface tension of iron; only in a few cases was a small decrease observed after the first addition. This indicates that the

increase in the surface tension is associated with the deoxidation and desulphurization of the metal (in the case of deoxidation confirmed by analysis). The modifying influence of additions of rare earth elements was confirmed on special heats of X23H18 (Kh23N18) steel made in a 30 kg induction furnace. The grain size of the metal in the cast state was found to be diminishing with an increasing amount of rare earth element added. There are 6 figures and 2 tables.

ASSOCIATION: Moskovskiy institut stali (Moscow Steel Institute)

SUBMITTED: November 22, 1961

KRYAKOVSKIY, Yu. B., and VISHKAREV, A. F.,

"The use of rare-earth metals for improving steel properties and on the deoxidizing properties of rare-earth metals and their effect on the nature of inclusions."

report presented at the Conf. on New Trends in the Study and Applications of Rare Earth Metals, Moscow, 18-20 Mar 63

L 12846-63 EWP(q)/EWT(m)/BDS AFFTC/ASD JD/JG

ACCESSION NR: AP3001467 S/0133/63/000/005/0422/0425 76 61

AUTHOR: Yavoyskiy, V. I. (Dr. of technical sciences); Matevosyan, P. A. (Engineer) Kryakovskiy, Yu. V. (Candidate of technical sciences); Tyurin, Ye. I. (Candidate of technical sciences); Vishkarev, A. F. (Candidate of technical sciences); Permyakov, L. N. (Engineer); Antipov, K. I. (Engineer)

TITLE: Use of rare-earth elements in smelting of structural alloy steel and of stainless steel 27

SOURCE: Stal', no. 5, 1963, 422-425

TOPIC TAGS: Ce, La, Nd, Pr, Ni, Armco-iron, steel Kh23N18, steel KhGSA, steel 1Kh18N9T, steel 12Kh1MF, steel 4CKh, flake formation, steel 37KhS, steel 36G2S, steel 30KhSA

ABSTRACT: The influence of rare-earth elements on properties of different kinds of steel was investigated at Moskovskiy institut stali i splavov (Moscow Institute of Steel and Alloys). Ce, La, Nd, and Pr were used separately in the form of an alloy (45-55% Ce, up to 28% La, and up to 15% Nd). Laboratory tests indicated that Ce and La lowered the surface tension of molten steel.

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L 12846-63
ACCESSION NR: AP3001467

It was shown that rare-earth elements used in metallurgy (up to 0.3%) do not change the concentration of hydrogen dissolved in molten steel. These elements formed stable nitrides and had a deoxidizing and desulfurizing effect on Armco-iron, on steel Kh23N18, and on steel 30KhGSA. The steel smelted with rare-earth elements was twice as tough as without them. The aftercharge of rare-earth elements improved the elasticity of stainless steel Kh23N18 and reduced the total amount of nonmetallic impurities. Moreover, 1% of Ni was saved, without any loss of elasticity, when rare-earths were added in making the steel 1Kh18N9T, while the addition of rare-earths to a number of structural alloy steels (30KhGSA, 12Kh1MF, 40Kh) improved their elasticity. An addition of up to 1.5 kg/t of rare-earths reduced but did not eliminate the formation of flakes in steel 37KhS, 36G2S, and 30KhSA. However, adding up to 2.7-2.8 kg/t the formation of flakes was completely eliminated. "The melts were made with the assistance of M. N. Kul'kova, B. S. Petrov, M. P. Lapshova, G. D. Shury*gin, V. A. Grigor'yev, B. N. Okorkov, A. M. Yakushev, P. N. Balashev, G. R. Opanevich, and others." Orig. art. has: 2 figures and 5 tables.

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L 17462-63 EWP(q)/EWT(m)/BDS AFFTC/ASD JD

ACCESSION NR: AP3004782 S/0129/63/000/008/0011/0018

AUTHORS: Kryakovskiy, Yu. V.; Rubenchik, Yu. I.; Tyurin, Yo. I.; Yavoyskiy, V. I.

TITLE: Mechanical properties and nature of nonmetallic inclusions in alloyed construction steel with a rare earth element admixture 61 60

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 8, 1963, 11-18

TOPIC TAGS: steel mechanical property, steel nonmetallic inclusion, alloy steel, mischmetal, 30KhGSA steel, 12Kh1MF steel, 12KhN2A steel

ABSTRACT: Authors analyzed the effect of small admixtures of mischmetal and ferrocerium on the mechanical properties of 30KhGSA, 12Kh1MF and 12KhN2A steels. They also studied the nature of non-metallic inclusions in a steel with rare earth element admixtures. The test heats were executed in basic 60 and 140-ton open hearth furnaces fired by natural gas and black oil. Authors conclude that mischmetal admixtures in amounts of 0.5 to 3 kg per ton into the above-mentioned steels increase the impact toughness in drawn-out and transverse samples. These same admixtures lower the cold brittleness threshold of 12Kh1MF steel, but they improve the plastic and impact properties of cast metal from 12KhN2A steel. The introduction of mischmetal reduces the zonal liquation in alloyed

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L 17462-63

ACCESSION NR: AP3004782

construction steel ingots. Rare earth elements alter the nature and distribution of the non-metallic inclusions in steel, which, in all probabilities, explains the increase in mechanical properties. When more than 0.8-1.0 kg per ton of mischmetal is added to an ingot, the appearance of macro defects in the steel, which are caused by conglomeration of the rare earth element inclusions, is possible. Orig. art. has: 3 figures and 3 tables.

ASSOCIATION: Moskovskiy institut stali i splavov (Moscow institute for steel and alloys)

SUBMITTED: 00 DATE ACQ: 06Sep63 ENCL: 00

SUB CODE: ML NO REF SOV: 004 OTHER: 000

Card 2/2

KRYAKOVSKIY, Yu.V.; RUBENCHIK, Yu.I.; TYURIN, Ye.I.; YAVOYSKIY, V.I.

Mechanical properties and the character of nonmetallic inclusions in alloyed structural steel with rare-earth metal additions. Metalloved. i term. obr. met. no.8:11-18 Ag '63. (MIRA 16:10)

1. Moskovskiy institut stali i splavov.

VVEDENSKIY, V. S.; RUBENCHIK, Yu. I.; SEMENCHENKO, G. V.; KRYAKOVSKIY, Yu. V.; YAVOYSKIY, V. I.

Improved methods for the final deoxidation of 10Kh16N25M6 and 40KhNMA steels. Izv. vys.ucheb.zav.; chern.met.7 no. 5:40-45 '64. (MIRA 17:5)

1. Moskovskiy institut stali i splavov i Izhevskiy metallurgicheskiy zavod.